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ORIGINAL ESSAYS.

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NÆVI MATERNI; *or, Remarks on the respective Influence of Imagination and Disease in the Formation and Deformities of the Human Fœtus.* By Dr. FELIX PASCALIS.

THE question we wish to examine on this important subject is that only of the respective influence of imagination and of disease in producing marks or deformities on the human fœtus.

The dread of these is frequently a source of great uneasiness to mothers, and there are but a few minds enlightened enough to reject a prevailing opinion respecting the effects of fear, of passion, and especially of *want* or disappointed desire, during pregnancy, which may stamp the body of a child with a corresponding mark or deformity, and even cause abortion.

Were these prejudices to impose restrictions only on desires and appetites which it would be improper or impossible to satisfy, they would in many respects be attended with some salutary effects; but the error is carried to such a degree as to interfere with all necessary comforts; it creates a thousand delusions of imagination, and must ultimately predispose a mother to various diseases, and thereby contribute much to an evil which had probably been avoided, had it not been so much feared and talked of. In fact, what is the first relief sought for

and asked by the anxious and still suffering mother, as soon as she has brought forth? Is her new-born infant free from marks or deformities?

It is not only beyond reason and comfort that this prejudice operates, but against the perfect completion of gestation; it naturally diverts also the attention of mothers, midwives, and even physicians from the means which surely would protect the growth of the fœtus, and remove any cause of deformity or *nævus maternus*. Very few persons are aware of this fact, that a great lowness of spirits, unfounded fears, delusions of imagination, and appearances of spectres, are symptoms of disease in a pregnant woman which should be immediately investigated and remedied. I knew a husband who once stole a charming canary bird from his neighbour to give it to his unhappy wife, who *wanted* it, and who would have been more usefully served by a good dose of castor oil, or by a more substantial meal than that which she had taken the day before! The laws of the animal economy, it should be known by every body, conceal frequently, under flattering appearances, the germs of severe disorders, and both the susceptibility of a female, and the nature of the new functions she undergoes in pregnancy, constitute another order of things, and various degrees of illness; the first indications of which are frequently to be found only in the error of her sensations and the weakness of her mind.

To confine within the proper bounds of truth, at least of probability, the rare occurrences and the nature of *nævi materni*, I wish we could critically examine the long and marvellous history of alleged and exaggerated cases of the kind; one half, we should find, were rarely invested with sufficient authority, and a great part of the others were rendered popular among weak and ignorant minds, by credulous or equivocal characters, who hoped to recommend themselves by some sad and wonderful tales.\* Our

\* The following narrative, from a medical gentleman who appeared commendable by good sense and candour, will prove how often credible facts are alleged and circulated, which are, nevertheless, fraught with absurdity. He was familiarly controverting the subject now under consideration, as a champion only for the power of imagination; and, as an argument in point, he adduced the following case: He had attended a woman in child-bed, who had brought forth an infant entirely deprived of one arm. On inquiry about the circumstances which had caused this mutilation, he was plainly told, that the



limits in this work will not permit such a digression. Our medical readers are no doubt informed, that after long and interesting controversies on this subject, under the auspices of a learned institution of Europe,\* and especially by the profound researches of Haller and Rœderer, a great number of terrifying and astonishing cases of monstrosities and *nævi materni* have been refuted and rejected. The power also or influence of imagination, in other instances, has been much doubted of, and in a great measure superceded by that of disease. Indeed, those numerous marks of wine, of a piece of liver, of pork, of fruits, of birds, on the very face of many persons that are seen or heard of, I apprehend, are nothing else but parts of misplaced hairy cuticle, or of mucous membranes, transported, as it were, from one part on another, or surfaces which have suffered erysipelatous inflammation. Hence Haller observes, that these marks, or *nævi materni*, are never of a yellow or green colour, conformably to the objects that were supposed to have excited them.†

All these, and greater defects or deformities, it is our object to account for in some reasonable way, so as to remove vexation and fear, frequent causes of diseases, and of that morbid excitement, without which there would

mother, quietly sitting and working, was one day suddenly alarmed by a great noise and piercing shrieks, proceeding from a cellar underneath; recollecting that she had left there, a few minutes before, her playing child, she rapidly repaired to his assistance, suspecting he had fallen into a large barrel by the means of a chair or of a bench; in it she instantly plunged her arm to take him up, when lo! she lifted a large rat just caught in an iron trap by one of his fore-paws! Wonderful to tell, she survived the terror, the fainting, and the subsequent illness. But, after a pause, I simply asked the Doctor whether he had ascertained at what period of the pregnancy this event had taken place? To this question he appeared much embarrassed and mute; finally, he did not think the circumstance very material! I beg your pardon, said I, for after the formation of the fœtus, the arm, big or small, which you suppose was cut off, or severed from the trunk by the power of imagination, should have been found in the membranes, or it must have been absorbed! No further argument could be offered. The good Doctor did not surely know the testimony given by Haller, that among a thousand ridiculous tales, that one had never been offered nor proved, of a part of a limb of the fœtus having been spontaneously separated from the body, which afterwards disappeared by some cause of destruction. (Vide Halleri Elem. Phys. lib. xxix. sect. 11. p. 141. Edit. Lausannæ.)

\* The Imperial Society of St. Petersburg.

† Hæ quidem maculæ facile fiunt ex morbo cutaneo: rubræ ex sanguine congesto, vel in venis retento, vasisve per tenuiora velamenta pellucetibus, et loci errore, quæ quidem in Livorem possunt abire. Quare hæ maculæ nunquam colorem rei visæ referunt, si ea tota flava fuerit, aut viridis. (Lib. xxix. sect. 2.)

be no *nævi materni*. We shall be convinced that by providential laws, the offspring of man, and all animated creation, is protected against a destructive degeneracy, provided it is not begotten under the influence of morbid causes, and consequential mental delusions.

Harvey had acknowledged a peculiar power or property of the matrix, from which he thought conception takes place by a kind of contagion received by the female body from the male liquor; it was also a fecundating quality given to that organ, like that of conceiving ideas is peculiar to the brain, whence, through the senses, images are transmitted to it. Many other philosophers defined that power a spirit *architectonicum*, a *plastic* idea. Buffon represents it as a *harmony of position* in nature, whether it is animal or vegetable. Derangement in monsters is even executed with some order. That harmony was transformed by Leibnitz into an analysis of position, *analysis situs*. It was something like a mathematical art, which we are not acquainted with. When amusing ourselves in folding and cutting papers to form crowns, boats, garlands, &c. we unexpectedly perceive singular and complicated figures by one or more foldings. The analysis situs is a law from which the embryo derives the best and most conformable shape to its own germ. This explanation is next in character to the *filament* swimming in the seminal liquor, as it is represented by Darwin. This is the prototype of all future forms, provided it is furnished with a placenta, and such organs as are necessary to assimilate the nutriment presented to it. This filament never can be affected by the imagination of the mother; it is however susceptible of increment of parts, or duplicatures, which will give double sets of heads, limbs, fingers, &c. Ingenuity is never at a loss to account for the greatest mysteries in nature! Thus Cabanis of France thought that all the laws of sensibility and sympathy were concentrated in the matrix, where the embryo must be moulded according to their impressive tendencies.

These and other systems nearly express the same thing over and over again; they differ only by the various points of view in which it is intended to establish the inherent power of procreation in each of the living species, and its consequential laws, to protect the embryo against

any error or defect which might transform it into any unlike sort, different from the parent stock. A similar cessation or transformation of one species, we are not yet acquainted with in the creation; and further more, if it happens that by similarity of organs generation is effected between two different kinds, it is well known that the most prominent character of this *deformed* and *uncreated* individual, is its incapacity of reproduction. To what possible cause, therefore, could essential alterations or defects of an embryo be referred, while the designs and laws of nature are so uniformly concurring to its own preservation? except we say that they may be disturbed and opposed by the concurrence of morbid causes, and under the counter-acting power of disease.

Imagination alone has not the power to intercept the motions of the involuntary muscles, nor any of the functions of animal life. The stomach will digest the food introduced into it, in spite of the firm resolution which a hypochondriac has formed to starve himself to death; and if the natural desire for food is not impaired by disease, the famished sailor will taste and digest the horrid meal afforded to him by the fate of lot, in the murdered body of his friend and shipmate. Yet, how soon those irresistible laws for the preservation of our life and our species are disturbed and interrupted by disease, we scarcely need to prove. The fable of Tantalus is but a feeble expression of the torments we frequently witness, and which are inflicted by disease, when the strongest desire for a natural want survives the power of satisfying it. In the same manner a morbid action may reach and disturb the work of generation in its proper and separate organs.

We do not deny, however, the influence or impressive co-operation of the imagination in the determination of deformities and *nævi materni*, any more than we would *absurdly* pretend to say that the sentient and mental faculties never concur with the physical powers of both sexes to the formation of the embryo; but we wish it to be understood, that the errors or delusions of the same faculties could not be operative unless they were consequential to or connected with some morbid action in the system. To be more explicit, let us remember that dreams compose themselves of pleasurable or distressing images, ac-



according to different states of internal functions and secretions, as they are obstructed and laborious, or superabundant and depletory. Again, in a violent paroxysm of fever, which excites a maniacal delirium, the re-action of grief, of despair, of terror, or of rage, may aggravate the case and instantly render it fatal. Who does not see, therefore, in the close connection of the sentient, thinking, and organic powers, a co-ordinate agency and re-action, absolutely necessary for the re-production of the same kind and species? That is, to be perfect and regular, under healthy operation, and proportionately defective or irregular under morbid excitement.

Indeed, it would be as absurd to conceive a less powerful cause of deformities of the human fœtus or *nævi materni*, as it would be to suppose that the preservation of the human race remains exposed to the danger of degeneracy, and even of extinction, from the effects of the disordered passions, fantastic images, and illusory spectres they might create in a weak mind. Hence the eloquent Buffon very humorously exclaims,\* “What curious assemblage of figures would be seen, if all the whimsical desires of the mother were written on the skin of the child?” Nay, if such were our chances and dangers, the same would occur under the sway of vices, passions, follies, and distressing calamities; the history of mankind would be that of a thousand degenerated and monstrous races; each of them could be traced to known aberrations of the mind, with their respective and acquired depravity. Public calamities, abodes of convicts, asylums of poverty, disorderly families, private crimes and misfortunes, all, and each of these, all over the world, would mark periods of human deformity and re-produced degeneracy; which, thanks to the all wise Almighty, is certainly never the case.

We must therefore conclude, that inasmuch as the operations of the mind are entirely subordinate to and dependent on animal and organic life, either must act differently or endanger the formation and the growth of our offspring. The one never acts but in consequence of certain diseases of the other, and this very often without the co-operation of mental faculties. Hence we may infer,

1. That when idiopathic and acute diseases diffuse their action throughout the whole system, the morbid excitement may reach the matrix, and thereby endanger the growth and forms of the embryo, whether the same disturbs, at the same time, the mental faculties of the mother or not. Of this we will produce a remarkable instance, seized, as it were, in the most favourable opportunity to apply it in either case.

2. That many chronic diseases affect neither mental powers nor the matrix, because they do not extend their operations to all the organs and parts of the human system. Thus, mothers afflicted with consumption or asthma, hæmoptysis, with visceral obstructions and dropsy, with cutaneous disorders, dyspepsia, anorexia, &c. are known to bring forth perfect children, and not unfrequently with a more robust and invigorated habit of constitution than they have themselves. Mauriceau, one of the most authoritative obstetrical practitioners, had remarked that contrast, and proved it by numerous decisive facts. (*Observations sur la Grossesse. Paris, 1694.*)

3. Chronic diseases, which have an immediate tendency to affect the brain, or the diaphragmatic plexus, have, by their re-action on the system, an increased excitement, and may vitiate the economy of the uterine functions. These are principally cephalalgia, epilepsy, hepatic and uterine obstructions, and also contagious diseases. Hence, hysteria, melancholia, even mania, and various kinds of vesaniæ are much to be regretted in a pregnant woman. To such causes we must ascribe all hereditary imperfections of the sentient and mental faculties, and those grievous fatal deformities which would render existence a deplorable gift of nature. It is, however, providential that few cases of that nature escape a timely abortion, or a prompt death after birth.

4. Accidental passions, shocks of distress or terror, are seldom deeply experienced without provoking abortion; if gestation should not be interrupted, and they prove the cause of deformity or *nævi materni*, we hold that some acute or chronic disease has been the consequence of the first perturbation of animal economy. A diffusible morbid excitement has reached the mental faculties, which afterwards have become more forcibly impressive on the matrix and

the embryo, in the same manner as we have explained in our second and third aphorisms. But an undermining sorrow from vicissitudes of life; the bereavement of an admired and cherished husband; the more poignant affliction of an outraged love and ravished honour; the ravings of a distracted female, who, rather than to be discarded from the ranks of honoured virgins or of chaste wives, chooses and seeks to smother all at once in her very bosom, the offspring, the recollection, and the remorse of her guilt! No; no abortion, no *nævi materni*, are in those deplorable situations to be apprehended.\* A new and habitual stimulus on the sentient and mental faculties, is by any of these causes created, which raises the power of organical life. The most intense operations of the mind and of the heart, are seldom known to have disturbed the functions of the matrix and created abortion. How admirable and provident are the laws of nature! The afflicted mother is thus protected in her distress, and the culpable designs of a debased woman are most singularly frustrated.

These are facts which, with a few exceptions easy to account for, we would not be afraid to submit to the most scrutinizing controversy. They bring in a striking point of view a corollary very different, and almost opposite to the prevailing and popular opinion of the origin of deformities and *nævi materni*; they prove, that although the mind may dwell on distressing subjects of sorrow, terror, and despair, brought on by unforeseen accidents, there is little to apprehend from their operation against the healthy functions of the matrix, and the safety of the embryo; while the errors of judgment, the fantastic images, and all absurd illusions of the mind, with depravation of appetite and desires, which unexceptionably originate from disease and organic debility, excite a great re-action on the organ which in this case is so properly called by Cabanis "the centre of all sympathies and sensibilities."

\* The most powerful menorrhagic remedies prove frequently unsuccessful to promote abortion. This phenomenon is easily accounted for. An old wretch was a few years ago arraigned and condemned in one of our courts, who relieved his applicants by an operation, in perforating the membranes through the os tincæ. He concealed his instrument, and pretended to touch the parts only. Even that mode is known to have proved fatal, and cannot be effected without a dangerous degree of uterine inflammation.



Our analysis of the causes of fœtal deformities, and of *nævi materni*, must ultimately be referred,

1stly. To general morbid excitement from acute diseases.

2dly. To diffusible morbid excitement from chronic disease, affecting the brain or the diaphragmatic plexus.

3dly. To accidental shocks of passion, that create a general or diffusible morbid excitement.

4thly. To local causes and violences.

The following accurately observed cases may perhaps illustrate our subject, and develope it in a stronger point of view than we have been able to represent.

### CASE I.

A mother of several well formed children, thirty-two years of age, had long been afflicted with convulsions. When she first came under my care (July, 1810), although much emaciated, she had naturally a good constitution. I soon perceived, by the periodical return of her disease, that it proceeded from a suppression of menses. In its further complications it appeared to proceed from domestic cares and want of nourishment, the consequence of dyspepsia and anorexia. My assiduous attentions and perseverance produced at last the return of her menses; she recovered perfectly. Whatever predispositions she retained, I impressed her with the necessity of counteracting them, with further precautions, and left her, very much encouraged, in the enjoyment of health, of which she had been long deprived; for the better continuance of which, I hoped she would soon become a mother. Indeed, in the middle of the ensuing winter, symptoms of an advanced pregnancy were already unequivocal, but with regret I observed that she was again burdened with too much family care, and after many exposures during the first spring month, she at last caught a violent pleurisy; she might then have been nearly four months gone. The attack was severe and perilous. It commanded repeated bleedings, with every concurring and auxiliary remedy, which, in a few days, effected a hopeful remission of symptoms; but, while the respiration apparently became free, and the pains abated, she grew delirious, and her mind was incessantly preyed upon by fanciful images and spectres, too ridiculous to be mentioned.

At the same time, a violent determination to the matrix foreboded an abortion, which took place on the fifth night of her attack. I easily delivered her, and obtained the secundines through an alarming flooding, which, with the continuance of her pains, and her extreme anxiety, suggested to me the apprehension, that her pleurisy was changed into an uterine inflammation, which, of course, must soon put an end to her existence; but nothing could confirm me more in that diagnosis than the following appearances on the fœtus:

It was of a perfect formation, and bearing strong features, in the face, of the other children of the patient. On the top of the head there was a black spot; it descended around in a lighter colour, and terminated like a red vivid areola, from the neck to the shoulders, upper part of the arms, and to the middle of the face. The centre of this inflamed surface was evidently sphacelated, and it must probably have caused the death of the fœtus, and its subsequent absorption. I inferred conclusively, that the fœtus had participated in the inflammation of the uterus.\*

The next day I found an unexpected alleviation of symptoms. The flooding had subsided, the lochia were kindly and regularly formed, and there remained not the least symptom of inflammation; the state of the patient was otherwise dubious; the pleuritic symptoms seemed to return upon her, and while, through the period of eight days, the uterus had regularly closed, she had grown worse and worse in the preceding complaint, by fixed and lancinating pains in the breast, by extreme oppression and incessant cough, by purulent discharges and hectic pulse, which in another week put an end to her existence.

The many interesting points of observation which this case affords, how it unveils the principal cause of mark, or *nævi materni* in the embryo, no doubt an intelligent reader may perceive. There existed certainly not the least inflammation of the matrix. Some unknown cause had transported much pleuritic blood† through the funis to

\* The writer is in possession of this fœtus.—It is well preserved.

† Pleuritic blood! I could not express better my idea, while I do not know, whether there is a part only of the sanguiferous system, or the whole of it, that constitutes this acute and dangerous disease. At any rate, under its vio-

the fœtus, when the remission of pains in the breast took place. It was then, I remember, that her anxiety and delirium were principally caused by the terror she entertained of an abortion. Had this acute disease terminated more favourably, as it might in a different subject, this birth would have produced a child with a dark red mark on the head, and other parts of the body. Speculations had not been wanting to trace this *nævus maternus* to fanciful images, or to disappointed desires of the mother!

## CASE II.

I was called, not many years ago, to a woman of about twenty-five years of age, of a small stature, good figure, and fresh complexion. She was now a little pale, and exhibited a considerable eruption all over the body, formed by irregular and purplish pustules, which I soon judged to be of a syphilitic nature. Wishing a more private conversation, she excused herself to a man, a supposed husband, who was present, to inform me that she had experienced an abortion, the result of which she would show me; besides, she did not feel well, and wanted to be advised, &c. She handed a bowl containing a six weeks embryo, which, by the colour, and length of the limbs, one might think was a monkey. She freely acknowledged the resemblance, "for she had such a creature in her house, that belonged to a sailor, and she never could lose the sight of it since it was gone." Recapitulating about her other complaint, I ascertained that she was a low and loose character, and an exposed woman, who perhaps never was free from it. I retired with the above present, which I have carefully kept to this day, leaving wholesome advice and medicines, which, for her own advantage, and further elucidation of the above fact, I afterwards urged and renewed.

Of this pretended monkey, the most surprising appearance was the brown colour of it, with the eyes encircled

lent operation and peculiar action, why must the present effect on the fœtus appear unaccountable? Is it because it came through the winding *pipes* of anastomosing vessels of the uterus with the placenta, of the funis, of the fœtus itself? But, who could wonder at this, more than at the infinite musical effects produced by strings and pipes vibrating and oscillating the air?



by a lighter colour. The flatness of the head seemed to have been effected by an abrasion or reversion of all external integuments, drawn back and extended as far as the end of the spine.

Should it be true, as some believe, that the syphilitic poison may reach the embryo, there would be reason enough to suppose that it acted in this case as a morbid excitement, which, concurring with fear or horror of the animal, effected something like it. But, on the contrary supposition, this case exemplifies, that by the power of a specific poison, a general or diffusible morbid excitement is created, equally capable of aggravating natural causes of fear, of composing them into importune fanciful images, influencing, on the other hand, the co-existing functions of the matrix.

### CASE III.

It may be seen by the present case, that a strong hale woman, the mother of several healthy children, industrious herself, and happy in her domestic establishment, received the effects of morbid excitement by acute disease; in conformity, however, to private and unavailing impressions, which produced one of the most singular of the *nævi materni* I ever witnessed. I saw the tumor pendulous on the lower part of the sacrum, and laterally, of her male and healthy infant. *Quodque lipoma instar penis humani, circiter unius pollicis et medii, major erat quam alter. Hunc putares cum glande sub preputio, cutem que retractando aperiri posset. Sed deerat glans; nulla visa sunt vestigia scroti.* This little oblong and curious tumor was taken off by means of a ligature; for whatever substance composed it, was not felt elongated farther than the surface of the part where it was affected; and at this junction, nothing but small blood vessels could exist. As this *lusus naturæ* dropped off by sphacelation, no farther observation could be obtained of its organization. The woman had experienced, during pregnancy, an attack of fall fever, (bilious remitting) during which I attended her.

## CASE IV.

From the following case, with which an European correspondent has politely favoured us, we derive some additional testimony for the opinions we have manifested. From the same, also, we have some foundation in representing that an internal mal-conformation of the embryo might cause deformities, tumors, and marks, without any concurrence of imaginary illusions or ideas.

J. B. Mazzony, professor of surgery in Florence, informs us, that on the 5th of July, 1810, a young and hardy country-woman was delivered of a female child, bearing an enormous tumor; the front, back, and internal views of which, have been faithfully delineated from a copper-plate, by Dr. Anderson, of this city. (*See the plate.*)

The mass extended from the convex part of the sacrum, down to the heel, and seemed an extension of the cutis; it had caused the arms to protrude forward in a vertical line. The tumor, when opened by the midwife, discharged one kiligramme and one fifth; that is, about three pounds, of a watery fluid. It had no communication whatever with the spine, and did not certainly participate of the nature of *spina bifida*. In the upper and internal cavity, there was adhering a red globular kind of body, the size of a pigeon's egg, with a few hydatids. The child lived forty-eight hours, and died in convulsions. On examination, only one kidney was found in the abdomen, connected with the bladder by a very short ureter indeed; in other respects the child was perfectly formed.

A preparation of this tumor is now deposited in the extensive anatomical collection of the Foundling Hospital, in Florence. The printed document, in our possession, does not afford sufficient information respecting any previous illness of the pregnant woman. We present this fact, only as connected with an internal mal-conformation, which it would be difficult, not to say absurd, to trace to some illusory impressions, from *want*, or from imagination.

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In the task I have assumed, to prove and exemplify the principal agency of disease on the functions of the matrix; without which, the increase of the strongest passion, nei-

ther the fanciful illusions of imagination, nor whimsical desires of women, could ever be impressed on the human fœtus, I have pointed out that local causes, internally or externally applied, may produce deformities, &c. These could hardly admit of any controversy; with this difference however, that they more frequently induce abortion, defects, or distortion of the frame, than additional marks and *nævi materni*. Another exception is to be noticed, inasmuch as a local cause may of itself be the effect of disease, and facts enough are known, from local syphilitic ulcers, from internal tumors, enlargement of the ovaria, from leucorrhæic relaxation, and intestinal lesions; also from hemorrhagic predisposition, or plethora of the matrix, which incessantly interrupts gestation, and seldom carries it through the period of nine or ten moons. Our readers will justly perceive the importance of a fixed system in the subject; and should they prefer to form their opinion under the dictates of numerous celebrated writers, to take their experience as a guide or rule of judgment, they must be warned, and told that sound physiology has not always kept pace with respective discoveries and contributions towards the improvement of the healing art. Ancient writers were very credulous; they frequently yielded to equivocal evidence, and to sad tales of the deplorable effects of imagination. One among them, however, we recommend as an honourable exception. Mauriceau, who wrote one hundred and fifty years ago, and collected no less than seven hundred cases in obstetrics, always predicated the existence of *nævi materni* on disease.

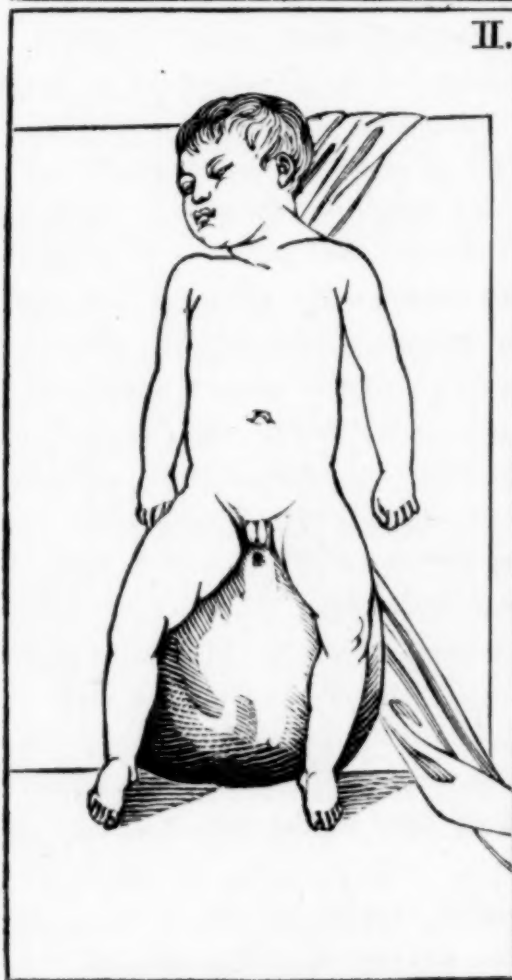
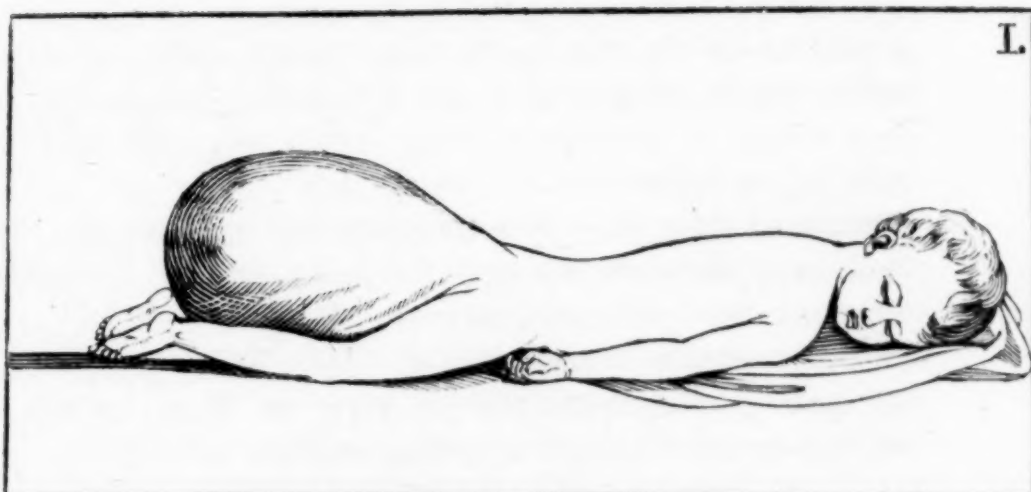
If, by our imperfect developement of that doctrine, we could only contribute to do away the vexation of mind, and the unnecessary alarms to which mothers are exposed, during the laborious period of gestation, we will not certainly have written in vain.

— *Si quid novisti rectius, istis,  
Candidus imperti, sinon, his utere mecum.*

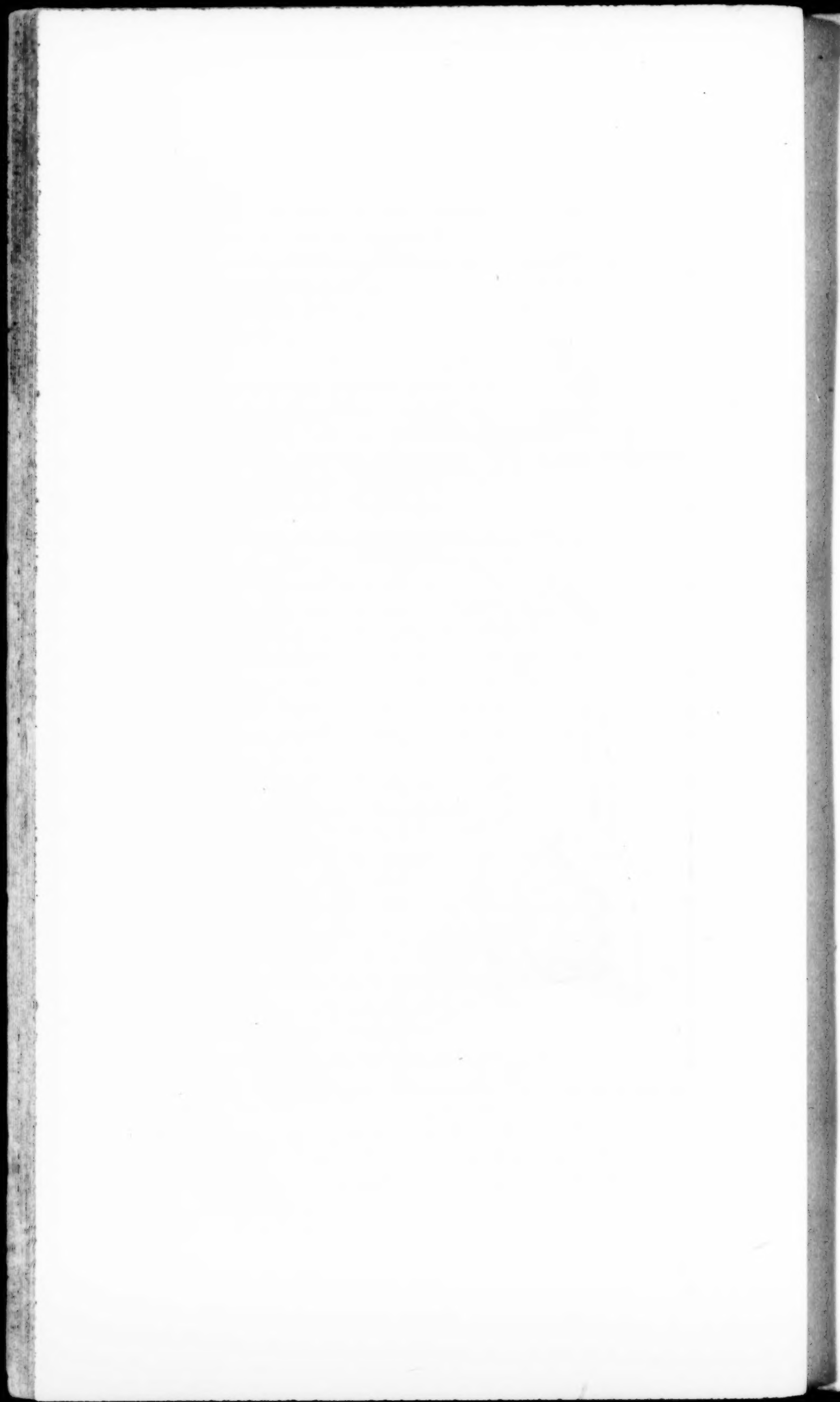
*Explanation of the Plate.*

- Fig. 1.—The tumor in its length, and profile.  
 Fig. 2.—The tumor in its front, and vertical face.  
 Fig. 3.—The tumor opened, exhibiting a globular body, and all its internal cavity,





*To face page 14.*



OBSERVATIONS on the COMPOSITION of AMMONIA. By JOHN MANNERS, M. D. of Philadelphia, Lecturer on the Institutes and Practice of Medicine in the Cabinet of Sciences of Philadelphia, and President of the Cabinet; Corresponding Secretary of the Philadelphia Medical Society, &c. &c. &c.

THE composition of ammonia, which was first procured, in a state of purity, by Dr. Priestley, in that illustrious career in which, by his numerous and important discoveries, particularly in pneumatic chemistry, he contributed so much to chemical philosophy, has long remained, and still is, an interesting subject of investigation and controversy in the chemical world.

The ancients were unacquainted with ammonia. The alchemists only knew it in a state of combination. Basil Valentine pointed out a method of obtaining it in this state. To them it was known by the different synonyms of *volatile alkali*, *hartshorn*, *spirit of urine*, *spirit of sal ammoniac*, &c.

Dr. Black, after his discovery of the carbonic acid, demonstrated the difference between pure ammonia and the carbonate of ammonia. But, notwithstanding the labours of philosophers, its composition remained unknown.

That ammonia contained phlogiston, was unanimously admitted, because it was found to detonate with nitre, (nitrate of potash.) M. Scheele proved it to contain *nitrogen*, (azote,) by decomposing it with metallic oxyds. He found that in these experiments, azote was always disengaged. Dr. Priestley, by passing a number of electric explosions through this gas, found it to increase to three double its former volume, and proved that it was composed of *hydrogen* and *nitrogen*. M. Berthollet, in the Memoirs of the French Academy, for 1785, fully established the correctness of these experiments of Dr. Priestley and M. Scheele. He found the proportions, twenty by weight of hydrogen, and eighty of nitrogen.

The philosophic world was now completely satisfied with the discovery of the composition of ammonia by these philosophers. But the questions yet remained, What is hydrogen? and what is nitrogen? These questions were



easily decided by the overwhelming authorities of Lavoisier, Morveau, Berthollet, and the other French chemists, who said neither hydrogen nor nitrogen had ever been decomposed, and, consequently, were to be considered simple elementary substances combined with caloric.

Dr. Priestley, however, had satisfied his own mind, by direct experiment, that hydrogen was a simple substance, *phlogiston ipsum*; but that nitrogen was a compound of oxygen and hydrogen, differing from water in composition only, in the proportion of these gases. The experiments of Dr. Girtanner and Sir Humphrey Davy, corroborate the theory of Dr. Priestley. Achard, of Berlin, Westrumb and Weigleb, from their own experiments, drew the same conclusion.

Dr. Priestley freed water from air, as completely as possible, by boiling, and subjected it to congelation nine successive times, without its being exposed to the contact of air, and obtained, each time, a portion of azotic gas. From whence was this azote obtained, if it be not a compound?

Dr. Davy having discovered, as he supposes, the metallic nature of the fixed alkalis, and obtained *potassium* and *sodium*, suspected that the basis of ammonia might also be a metal. From numerous and well conducted experiments to decide this point, he was convinced that his suspicions on this head were well founded, and that the basis of ammonia is actually a metal: and that this, united with a maximum degree of oxygen, forms ammonia. The experiments of Allen and Pepys, Berzilius and Pontin, confirm the correctness of his observation. The metal, Mr. Davy has called *ammonium*. Ammonia, therefore, is nothing but a peroxyde of *ammonium*, according to Dr. Thomson's nomenclature of oxyds.

We have seen that nitrogen and hydrogen *only* enter into the composition of ammonia. This has been repeatedly proved by both synthesis and analysis. From whence then, I would ask, is the oxygen, and whence the metal derived? "What, is this metal evolved from ammonia," says Dr. Thomson, (in the second volume of the last edition of his excellent System of Chemistry,) "and to which the name of *ammonium* has been given? is it in fact composed of one or two metals? Are azote and hydrogen

each metals in the gaseous state, or are they metallic oxyds, or do they constitute a single metal when combined together? These are questions," says he, "which the present state of the subject does not enable us to resolve. The experiments seem rather more favourable to the last supposition, which is the opinion entertained by Berzelius, but they are by no means capable of deciding it."

Does not Dr. Priestley's theory of the compound nature of nitrogen explain these phenomena? If nitrogen be composed of oxygen and hydrogen, as Dr. Priestley, Dr. Girtanner, and Mr. Davy suppose, is it difficult to account for the oxygen obtained from ammonia? Is it not in confirmation of this opinion, that all those substances, into which nitrogen enters as a constituent, afford oxygen when subjected to *galvanism*? as the prussic acid, &c. The presence of oxygen has lately been detected, even in the acid which is composed of ammonia and carbon. Or is this oxygen obtained from the decomposition of the water of the gas, which, Dr. Priestley contended, was the ponderable base of every gas, and an essential constituent? This is the opinion of my ingenious and truly worthy friend, Mr. W. Hembel, jun. to whose philosophic mind, which extends alike to all subjects, I am much indebted for frequent instruction. This is also the opinion of my father-in-law, professor Cooper, of Carlisle, formerly of Manchester, England.

But what is the nature of this metalloid substance, called, by Mr. Davy, *ammonium*? And from whence is it derived? Which of Dr. Thomson's conjectures is (or is either of them) correct? He asks, "Is it composed of one or two metals?" I believe, if it be a metal, it is composed of one only. "Are azote and hydrogen each metals, in the gaseous state," says he, "or are they metallic oxyds?"

Now, according to the theory of azote, which I have given, it (azote) is composed of oxygen and hydrogen, and cannot be a metal in a gaseous state, but an oxyd of hydrogen. Therefore, as the oxygen of the nitrogen is separated from its hydrogen, and as ammonia is composed of hydrogen and nitrogen only, there remains nothing but hydrogen; of course, hydrogen affords the substance called

ammonium: consequently, if ammonium be a metal, azote is a metallic *oxyd* in the gaseous state, and hydrogen a *metal*, in the gaseous state also.

If the theory of ammonia, which I have given, be correct, the *rationale* of the decomposition of ammonia, may be explained as follows: *Firstly*, by the agency of galvanism the ammonia is decomposed into its two constituents, viz. hydrogen and nitrogen. *Secondly*, by the continuation of galvanic influence the nitrogen is decomposed into its two constituent gases, viz. oxygen and hydrogen. The oxygen of the nitrogen separates from the hydrogen of the nitrogen, while the hydrogen of the nitrogen unites with the other hydrogen of the ammonia, and assuming a state of solidity, from some unknown cause, forms *ammonium*.

Therefore, ammonium is nothing more than hydrogen in a state of solidity, being deprived of its colour by some unknown affinity, and in this state, insulated in its elementary form.

This constitutes the *phlogiston* of Dr. Priestley, Mr. Kirwan, and other writers, respecting whose doctrine there has been so much controversy among philosophers. And, although the French chemists, by their enthusiasm and genius, converted every philosopher of the day to the anti-phlogistic theory, excepting the illustrious Priestley, who, like a brave hero, still sustained the attack, when every philosopher of the day had deserted his cause, and warmly defended the doctrine of phlogiston to the last; yet a modification of the phlogistic doctrine has again been resuscitated by Dr. Coxe, professor of chemistry in the University of Pennsylvania.\*

If this theory of ammonium be true, Mr. Davy has improperly denominated it *ammonium*, as it is only *hydrogen in a state of solidity*; it would be more proper to call it *phlogiston*. Finally, Dr. Thomson asks, "Do hydrogen and nitrogen constitute a single metal, when united together?" According to the theory which I have given, they do, for we only unite homogeneous matter together, viz. hydrogen to hydrogen, and separate the oxygen from the

\* For a review of this publication, see *Med. Rep.* vol. xiv. p. 355—357. Editor.



nitrogen. Therefore, the result of this analysis is, first, a small portion of oxygen, which is detached from the nitrogen; second, a substance of a metallic appearance, which Mr. Davy calls *ammonium*, but which, according to my theory, I would call *phlogiston*.

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*Information respecting the Cure of HYDROPHOBIA, by  
Blood-letting.*

**T**HIS addition to our stock of medical researches, on the important subject of canine madness, came to us from Calcutta. It immediately fixed our attention, and we promised an early account of it to our readers.

The late professor Benjamin Rush, in the last month of his life, did not omit to claim this new testimony in support of his doctrines, and mode of treatment in hydrophobia, as formerly published in the second volume of his *Inquiries*. (*Vide American Register*, Vol. iv. No. 1.)

We were also favoured with the pamphlet of Dr. Shoolbred, of the Bengal Establishment, bearing notes and remarks, affixed to it by Dr. J. Mease, of Philadelphia, who has largely contributed to all documents, and modes of prevention and cure, which have been collected in this part of the world.

Here we subjoin, 1stly, the narrations of Dr. Shoolbred, and of Mr. Tymon, a regimental surgeon, of two cases of canine madness, successfully treated and cured by blood-letting; 2dly, some inferences from those Asiatic writers, respectively compared; and, 3dly, our own concluding remarks.

**CASE I.**

*By Dr. SHOOLBRED.*

*Calcutta, May 18, 1812.*

*Tuesday, May 5, 1812.*—About 3 P. M. Ameir, a water carrier, from twenty-five to thirty years of age, and middle stature, in the service of Mr. John Wood, school-master, at Chowringhee, was brought to the Native Hos-

pital, labouring under the most unequivocal symptoms of hydrophobia.

The note from Mr. Wood, requesting admission for this patient, and the friends who accompanied him, stated that he had been bitten in the leg, about three weeks before, by a dog, believed to be mad, and that the symptoms of his disease had appeared that morning, the 5th.

I visited him in the hospital the moment I heard of his arrival, and found him sitting on the side of a cot, with an attendant holding him by each arm. The first view was sufficient to satisfy me of the nature of his complaint. His body, arms, and throat, were affected with constant and uncontrollable spasmodic startings. The muscles of his face were thrown into quick convulsive action at each inspiration, drawing back the angles of his mouth, and at the same instant depressing the lower jaw, so as to communicate the most hideous expression to the countenance. His eyes appeared starting from their sockets, and suffused with blood; sometimes fixed in a wild and terrific stare, at others, rolling about, as if they followed some ideal object of terror, from which he apprehended immediate danger. A viscid saliva flowed from his mouth, which was always open, except when the lips were momentarily brought together, for the purpose of forcibly expelling the offensive secretion that adhered to them, and which he effected with that peculiar kind of noise, which has been often compared to the barking of a dog. His temples and throat were bedewed with a clammy moisture. His respiration was exceedingly hurried, and might more properly be called panting than breathing; or, it still more nearly resembled that short and interrupted kind of sobbing, that takes place when a person gradually descends into the cold bath. He was exceedingly impatient of restraint, and whenever he could get a hand disengaged, he immediately struck the pit of his stomach with it—pointing out that part as the seat of some undescribable uneasiness. From the constant agitation of his whole frame, and the startings of his arms, it was impossible to count his pulse with exactness; it was, however, very unequal, both in strength and frequency; at times scarcely perceptible, and then rising again under the finger; sometimes moderately slow and regular for a few pulsations, and immediately after,

so quick as not to be counted ; but conveying, upon the whole, an idea of a greatly oppressed and impeded circulation. His skin was not hot ; and though his head was in incessant motion, accompanied with such savage expressions and contortion of countenance, as might easily have alarmed those unaccustomed to such appearances, he made no attempt to bite, which is far from being a frequent symptom of the disease ; and when it does occur, must be considered merely as an act of impatience at being held—and no more than the peculiar noise, above noticed, as indicating any thing of the canine nature imparted by the bite ; an opinion which has been sometimes fancifully, but absurdly entertained.

I desired water to be offered to him ; at the mention of which, he started with increased horror and agitation, and endeavoured to disengage himself from those that held him. When one of the attendants approached with a cup of water, he looked at it wishfully, and after some efforts, with apparent reluctance, stretched out his hand to take hold of it ; but, before he could reach the cup, his hand was suddenly drawn back by a convulsive motion ; at the same instant, he turned away his head, and writhed himself round on the bed in an agony of terror and despair, wholly inconceivable by any person who has not been a witness of the horrors of this most dreadful, and hitherto, it may be added, most irremediable of human maladies.

Such was the state of the patient at the moment of his admission, and for the few minutes that necessarily elapsed while these appearances were passing under my observation,

Of the nature of the complaint, there could not exist a shadow of doubt ; and having so recently read in the *Madras papers*, a case of hydrophobia, successfully treated by Mr. Tymon, of his majesty's 22d dragoons, by bleeding, mercury, and opium, I determined on the immediate adoption of the same plan.

I therefore, without delay, opened a vein in the right arm, by a large orifice, out of which the blood sprung with uncommon impetuosity, and of so fluid a colour as to resemble arterial rather than venous blood. By the time that sixteen or twenty ounces of blood had flowed, the spasmodic startings of the arms, body, and neck, had con-



siderably diminished; his breathing had become more calm, with less contortion of countenance, and he audibly acknowledged that the pain about the præcordia, and region of the stomach, was upon the decline. Encouraged by these incipient appearances of amendment, I allowed the flow of blood to continue; and when about two pints were taken away, seeing him greatly composed, I desired water to be again offered to him—when, equally to my astonishment and delight, he took the cup in his left hand, the blood still flowing from the right arm, and calmly, but with indescribable expression of satisfaction, drank two or three ounces of water; the sight of which, but a few minutes before, had thrown him into the most dreadful agonies. Soon after swallowing the water, he retched three or four times, but ejected nothing but saliva from his mouth and fauces; finding now that his pulse was 104, weak, soft, and regular, that he was become faint, and that all appearance of uneasiness had ceased, so as to allow him to take a second draught of water, about four ounces, I closed the vein, and laid him down on the bed. At this moment, he expressed a desire to have a natural alvine evacuation, and wished to go out of the hospital for that purpose; but as that could not be complied with, he took no more notice of it at this time. It is worthy of remark also, that during the bleeding, he made a sign to have himself fanned, a thing I never knew a patient in hydrophobia do before; their distress being so uniformly increased by any current of air blowing upon them, that, according to all my experience, the dread of air in motion is as constant an attendant on the disease, as the dread of water itself.

After the bleeding, he remained perfectly quiet, and fell into a slumber for about an hour: another circumstance, which also strongly marks the abolition of the disease, as no hydrophobic patient was ever known to sleep. When he awoke, he expressed a wish to have some sherbet, which was immediately given to him, and he drank four ounces of it with perfect ease. He then fell into another slumber, during which, some convulsive startings were again perceptible about his arms, chest, and face, but not strong enough to wake him.

At quarter past 5, he spontaneously awoke, and ap-

peared again somewhat agitated, with more suspicion in his looks, and of apparent doubt whether he could swallow as well as before; for when he took the cup, he put it to his lips with a quick motion, and gulped down about four ounces of water in a hurried manner, as if afraid that the difficulty of swallowing would be increased by a moment's delay. He also put his hand to the region of the stomach, and said that the pain in that part was returning. These threatening appearances of relapse, determined me to hazard a farther detraction of blood. I therefore immediately opened a vein in the left arm, and allowed the blood to flow again till he completely fainted; but previous to this effect of the bleeding, the pain at the stomach had ceased; and while the blood was yet flowing, he had again drank four ounces of water without fear or disgust. When he recovered from the fainting fit, he retched several times, but, as before, discharged nothing but saliva.

He now complained of nothing but extreme weakness, and giddiness of the head. And at this stage of the case, I apprehend, it will be allowed that the cure of the hydrophobia was complete; whether it would be permanent or not, remained yet to be seen.

I am now fully persuaded, that I might safely, as far as the hydrophobia was concerned, have omitted all remedies after the bleeding; but thinking that calomel and opium, in repeated doses, were more likely than any thing else, to induce that state of the system which would be less favourable to a relapse; and also, that if the patient, notwithstanding his present promising appearance, did not finally recover, it would certainly be said that I had not given him a fair chance, by departing in any particular from the treatment which had proved so successful in the hands of Mr. Tymon, I was led to conform to it so far, as to order four grains of calomel, and one grain of opium, to be given every three hours.

The first pill was taken at a quarter before six; but it was immediately rejected, followed by some water. A second was given five minutes before six, and remained. He now slept till seven—then drank some more water, and had a natural evacuation of his bowels: another circumstance which confirmed me in the belief that the disease was completely and permanently subdued, having never

before seen it, nor read in any history of the disease, of such an occurrence as a natural action of the alimentary canal in a case of hydrophobia.

At nine, he took another pill, and again at twelve; and continued to slumber and drink water as often as he pleased.

*Wednesday, May 6, (second day), 6 A. M.*—Has passed the night well. Took a pill at three, and another now.—Has drank water frequently—Pulse eighty-four—Skin cool—Tongue clean at the edges; some remains of betel, eaten before he was taken ill, cover the centre part. Two more alvine evacuations during the night. Complains of head-ach, but is entirely free from uneasiness about the stomach.

*On the following days, we find the Doctor engaged in obtaining from the patient a long recital of the bite he received on the leg, by a Pariah dog; of his first sufferings, impressions, and subsequent loss of memory; the whole happened nineteen days previously. He also applies leeches on each temple, to relieve his head-ach; completes the quantity of twenty-eight grains of calomel, and seven of opium, until the mouth is sore, and he discharges much bile.*

*Saturday, 9th, (fifth day), 9 A. M.*—Has passed a good night. Excessive secretion of bile has ceased. Clamorous for food—but I allow him only rice and sago—declines milk. He appears now to be free from all complaint.

## CASE II.

*By Mr. F. TYMON, Assistant Surgeon to the 22d Regiment of Light Dragoons.*

Benjamin Mason, a farrier, aged 34, was seized with violent spasms on the 7th October. When I saw him, I found him violently agitated, and screaming loudly; eight of the strongest men of the regiment were required to keep him on his cot; he clinched his fists at times, and made efforts to seize every thing he saw. In the midst of the paroxysm, he said that carriages, horses, animals of every description were floating before him in the air; he was covered all



over with sweat, his eyes at times staring, and at other times melancholy, gnashed his teeth in a manner not to be described; his neck was swelled, pulse very fast, light odious, pain in his head and temples increasing; he called for drink, but the instant he heard them pouring water into a tumbler, his wildness increased; he then beckoned for it; when it came nigh him he shook his hand and trembled, I may say shivered. I made inquiries if he had been bitten by a dog at any period, his comrades acknowledged he was. One hour after I saw him, his ravings, and efforts to disengage himself from his keepers, became so tiresome as to render it necessary to tie him to his cot, accordingly he was secured by several coils of bed-tape. I discovered he was bitten on his left thumb, therefore, no obscurity now remained as to the nature of his complaint. I began by bleeding him until *scarcely a pulsation was to be felt in either arm*. During the operation he made several efforts to bite me: as his arms and body were completely secured, and the quantity of blood taken away, naturally reduced his efforts—I now renewed offering the draught, which consisted of 100 drops of laudanum in mint water. He endeavoured to reject it, but I separated his jaws by means of a small piece of wood introduced between them, and poured the draught into his mouth, which he swallowed by keeping his head in a recumbent posture, notwithstanding some efforts were made in deglutition to reject it—his condition was so much debilitated from loss of blood as to enable me to effect it.

In the mean time, ordered injections of 300 drops of laudanum every second hour, and a drachm of mercurial ointment to be rubbed in every third hour.

P. M. 4 o'clock—Is now in a slumber—at half past 5 he awoke with slight efforts to separate himself from his bindings, pain in his head excruciating; shaved his head and blistered it all over. Mercurial frictions to be continued; still has an aversion to fluids—used the same means as before. Draught and glisters to be repeated.

P. M. 9 o'clock—Slept for two hours, and appears to be refreshed, complains of a lassitude and sickness at stomach, speaks rationally; offered him congee water, which he kept in his mouth a short time, swallowed a little, and discharged the remainder—Pulse rising—Repeat the frictions—to take

a pill of four grains of calomel and two grains of James's powder, three times during the night; to repeat the injection twice during the night.

8th—Pain in the head subsided, extremely debilitated, but rational; calls for drink, which with some hesitation he puts to his mouth and swallows with a slight kind of noise in his throat—Pulse low—Mercurial frictions, as before described, to be continued—a pill, of calomel four grains, and of opium and James's powder two grains, every second hour. Opiate injections to be repeated.

P. M.—Pain in his forehead become excruciating, was tranquil otherways during the day—Pulse 79—a blister to be applied to his forehead. To repeat the pills three times in the night, and to rub in a drachm of mercurial ointment every second hour.

9th—Very easy, relieved from pain and uneasiness in his head—had only one evacuation for the last twenty-four hours—castor oil one ounce to be taken immediately—frictions to be continued.

P. M.—Gums getting tender; feels no horror at the sight or approach of liquids; pulse rather hurried. To rub in a drachm of the ointment thrice during the night; pills to be continued. Bathed his feet in warm water.

10th—Fugitive dislike to fluids; when pressed, swallows congee water, and took one glass of wine. Pulse rising and regular; gums tender. Continue friction—repeat pills.

*During the ten following days no material circumstance occurred worthy to be mentioned, except that on the 6th day he was salivated; and on the 14th after his admission, he was discharged from the hospital in a perfect state of convalescence, and soon resumed his duties.*

In reference to further remarks added to the above narratives, we notice that Dr. S. satisfactorily removes every possible doubt or prejudice that could be apprehended against the genuineness of this case of canine madness. He afterwards emphatically insists on the efficacy of his remedy, which changed the symptoms constituting the disease in less than two hours; while in the case of Mr. Tymon, these were more or less protracted during four

days, and that, because he depended upon other remedies besides bleeding. Any thing else must now be excluded from our practice and confidence, except the latter. Yet Dr. S. is well aware of the hazard of his grand specific, should it not be applied at the earliest period of the invasion. He can testify by experience, that a great proportion of cases have fatally terminated six hours after admission into his hospital. The curative period is therefore but short, and the chance so circumscribed, that it really cannot be defined. When the patient is brought too late, then bleeding must be cautiously recurred to, lest subsequent failures should be quoted against this practice. He could himself point out by such unfair experiments, numerous deaths of rabies, supervening at a late period, when he was trying various other plans of treatment.

The practice should never be to take blood through a small orifice, but let it be very large, and pour out without regard to measurement and to animi deliquium. Our author is so sanguine in his possession of this *unicum et solum remedium*, that with an exposition of quotations from ancient writers, of facts and doctrines, he *liberally* undertakes to rescue medical science and physicians from a deserved opprobrium for not having sooner effected such a desirable discovery. Indeed, he explains how and why the secret was not known to Mead and Boerhaave, and why it escaped Rutherford, Cullen, and Macbride. He is not stopped in his way by our celebrated Rush, who had been long ago so positive and explicit in favour of blood-letting, that he had apologized for his former contrary opinion, while he thought that canine rabies was a characteristic disease of debility. (*Med. Inq.* vol. ii.) Dr. Shoolbred is much inclined not to except him from the blind flock, for connecting the remedy with his "peculiar" notions on fever and inflammation! Furthermore, as he might be obliged to divide the honour of the discovery with one (Dr. Burton's) case,\* published in America, he puts it aside by finding fault with it for some defect of genuineness; and that of Mr. Tymon, he represents as a *mercurial case*; therefore, he remains alone in possession of the field of

\* Vide Medical Repository, vol. viii. p. 17. We are much at a loss to find out upon what ground Dr. S. raises any doubts against the authenticity of this case.



honour ; and what exalts him still more in it, is his quotation from the Medical Annual Register of 1808: " That while the world remained in the most entire ignornace of the method of cure of this disease," we should conclude with him, that he has accomplished an herculean labour, and subdued the Lernean hydra. His concluding advice crowns the whole of this oriental bombast. The hitherto existing errors and mistakes respecting hydrophobia, originated with the notion of its being a nervous disease, and much resembling tetanus, which is highly asthenic, and renders blood-letting inadmissible. This *ignis fatuus* has diverted us from the path of curative science, and he hopes that we shall not be so unfortunate as to pursue the analogy in an opposite direction, by attempting to cure the latter and diseases of the same kind, with the weapons he puts in our hands against the first.

Dr. Alexander Berry, of the Madras Establishment, in his Appendix to the case of Mr. Tymon, among various and pertinent reflections which he subjoins to his narrative, and after having noticed those milder cases which easily yielded to medical routine, consistently proposes to investigate whether in obedience to laws of animal inoculated poisons, that of rabid dogs might not, like others under certain circumstances, become obnoxious, or a barrier against new infection.

Our sober and reflecting readers on this side of the world, we feel convinced, would not easily bend their assent and conviction to the kind of preposterous evidence given by Dr. S. and much less when in the face of it they could see that the wonderful imported cure comes with three cases of the same nature, all defined and successfully treated by purges, injections, mercury, and blisters, and without blood-letting. He furnishes himself one of those cases, that of Mr. Tymon, which, although subjected to bleeding, he rejects as argumentative in favour of his remedy, because mercury had been employed. But, in the name of common sense, if three cases are offered, equally brought to a safe issue by different remedies, against one cured exclusively by blood-letting, where is the evidence derived from, that blood-letting is the sole, the grand and unexceptionable remedy, notwithstanding any allegation made of their milder form of disease?

Another point of view wherein the Calcutta physician leaves his subject in the same clouds and darkness as before, is the insurmountable difficulty, and even the absurdity which he wishes us to encounter with him, were we to believe that one of the most virulent poisons could be elicited from the system which it infects, in the short space of a few hours, by the loss of sixteen or twenty ounces of blood. We ask by what principle in physiology, by what analogy or medical fact, such a phenomenon or rather such a miracle has ever been effected? Surely, from his laudable pretensions of correcting erroneous practice, and substituting a matter of fact to possibly erroneous theories, he would not descend to the vulgar rank of an empirick, belie all at once the general and known effects of poisons contaminating the system, the results of alterative agency, to invest himself with the sole and equivocal authority of an *ipse dixit*!

With respect to the authority of Dr. Rush, adduced by Dr. S. we not only give to it as great weight as to any in medical controversy, but we would exalt it much above that of many modern writers. And why did Dr. S. invalidate it on account of his theory of an inflammatory state of blood cured by the bite of a mad dog? Why does he suppose that theory capable of discrediting a practice promulgated and established long before he comes out himself to propose the same as *his own* discovery? This mode of vindicating his subject by an authority thus undervalued and forced down to a certain level, we peremptorily disqualify and reject. But, were we to find fault with his facts and opinion in support of the remedy of blood-letting in hydrophobia, we should say that they had already provoked much controversy, (*vide Med. Rep. vol. v.*) and that as far as he derived that remedy from a supposed similarity of that disease with a malignant or peculiar state of fever, we do not think his precepts conclusive from his principles, inasmuch as bleeding is not a specific remedy for fevers in general, and that even in certain fevers, it is admissible only *pro re natá*, and according to circumstances. It may be observed, after all, that we seem to attach too much importance to the oriental pamphlet, which we do not think conducive to the melioration of medical practice, and that after all we should not invalidate successful in-

stances, and discourage consolatory attempts towards bringing under our dominion one of the most shocking and perplexing diseases. But we readily answer, that we are actuated by proper motives, if we candidly conclude that the subject brought to our notice yet remains as much blended with obscurity as it was before. We should therefore suspect that some error is in the way of our progress towards the true and real cause of the disease now under our consideration. In all matters of doubt and uncertainty, we should have recourse to the help of analysis, the true guide of philosophy, and by which so many mysteries in nature have been disclosed. We should therefore divest ourselves, first of all, of our received impressions and ideas, change our data if necessary, and renounce the ground which has been hitherto so unsuccessfully trodden. If there can be a way left open, when we find ourselves engaged in a labyrinth, it certainly must be that of retrograding, and guiding ourselves back with a thread left at the entrance, or to first principles.

Is the disease produced by the bite of a rabid animal really to be ascribed to a specific poison, received through absorbing vessels, and remaining in the constitution?

If that poison is a matter, and like a contagion pervades the system, *tota in toto*, can there be no proof *a priori* of its existence besides the canine saliva which is supposed to be its vehicle? We believe not.

Do we reason safely by concluding that a bite has transmitted a poison from brute to man, while we see that the same identical rusty nail, hidden in the ground, may successively wound the feet and give the lock-jaw to a man, and then to a horse?

Let it be supposed that that poison may by certain laws, and in common with other sorts of contagious animal poisons, remain latent in the constitution during a defined or undefined length of time, why should we except it from another law of animal poisons, which is, that after a certain period, each poison manifests itself on the body by peculiar marks and considerable effects, besides the febrile convulsive, spasmodic, and nervous affections in which they may throw the patient? And why no such mark is to be seen at any period of the disease, nor the least vestige to be found after death?



It may be said that certain poisons in nature, when inoculated, produce no kind of marks or organic lesions, and can only effect the perturbation of nervous functions, and of the sentient faculties. The dreaded and subtle poison of the upas teuté (strychnos) of Java is in point; but this is not animal, it is a vegetable poison, and besides, instantly after inoculation, it produces its effect on the spinal marrow, and creates fatal tetanic symptoms.

Does not the form of disease created by the bite of a rabid animal, resemble temporary paroxysms of convulsive madness, or the period preceding tetanus and many other trismatic affections? Is not the horror of water, or hydrophobia, a symptom which has frequently occurred in various violent diseases? And are we not abundantly acquainted with facts to prove that this form of disease has been frequently observed in men and brutes, without being able to trace it to contagion by bite?

Of all these and other questions which might be answered and refuted, we are happy to say that we are in possession of interesting materials and facts to justify the liberty we take to propose them now to our readers, to whom we may, at some future period, present them as an essay calculated to excite discussion and promote mutual instruction; and in that view, we respectfully solicit their concurrence, by communicating not only the result of their practice in point of treatment, but also those of their observations in conformity to any of the above mentioned difficulties.

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*Strictures on the Unity of Disease.\**

**T**HERE is no subject which has excited greater interest, or been more warmly discussed in North-America, than the proximate cause, not only of fever, but of disease or diseases in general. Perhaps from time imme-

\* This paper has long been on the files of the Medical Repository, and through the events of death and change of editors, the documents referring to the author have been mislaid or lost. We insert it at this late period because we think it obviously useful.

morial, or at least since the derangement of the human system became the object of particular attention, and their remedies and treatment the pursuit and profession of a particular class of men, diseases, or what have lately been called the forms of disease, were considered as differing not only in their external appearances, but also in their immediate or proximate causes.

Under this impression, with respect to their nature, in order to assist the efforts of the practitioner, in distinguishing them one from the other, and to render their treatment more easy and certain, Dr. Sydenham first suggested the necessity of arranging them into different genera and species, according to their apparent affinities and relations to one another.

The propriety of this suggestion was immediately acknowledged by physicians, and different persons accordingly attempted to realize what was considered of so much importance to the health and happiness of the human species. Among others who have laboured in this very difficult enterprize, we readily distinguish the names of Cullen and Sauvages, whose systems have been considered as far excelling those of their competitors, and have generally been employed by practitioners as the most correct and certain guides in the exercise of their professional duties.

The *utility* of these systems of nosology, though like all the productions of human genius, they are perhaps far from being *perfect*, was never considered the subject of a question, until an effort was made by a physician, whose name carries with it as much authority perhaps as that of any upon the records of medicine, not merely to point out their *errors*, or to suggest their *improvement*, but to *blot* them for ever from the pages of medical history.

It is not my intention to enter into an inquiry, whether nosology be founded in truth or error, whether it is worthy of the estimation in which it has been so long held by some of the brightest ornaments of our profession, or deserves the sentence which has been with so much emphasis and solemnity pronounced upon it; but, whether we are not about to make a change of *names* rather than of *realities*, and to embrace the same monster, as it has been termed, disguised under a *new form*.

There appears to me to be a want of perfect consistency

between different parts, both of the theory and of the practice which have been delivered by a celebrated professor of the institutes. We find him in one part of his lectures, declaring that all the symptoms of disease, however unlike and opposite they may seem to be, have the *same proximate cause*, operating perhaps under *different* circumstances; that the most opposite symptoms require the same treatment only a little *modified*, but that for the same symptoms, precisely the same remedies are always necessary; in other parts of his lectures we meet with expressions which are calculated to create, I think, impressions somewhat different.

I will take the liberty of stating, in as brief a manner as possible, the theory of the unity of disease, as it has been delivered in a celebrated university, and then point out those expressions in the lectures which appear to me to be inconsistent with it.

The proximate cause of disease has been said to be, in every instance, "morbid excitement." This morbid excitement, according to its *seat* in the body, and its *degree*, produces different symptoms, which symptoms, from some connexion between them, or from their usually appearing at the same time, or in close succession, have been arranged into different groups or classes, called the *forms* of disease, and to which particular names have been annexed. Thus to one train of symptoms we give the name of yellow fever, to another that of dysentery, and so on with respect to all the other forms.

Attaching then to the name of yellow fever, of pleurisy, &c. no other idea than that of a particular set of symptoms, I suppose it will hardly be necessary to prove that where *those symptoms are wanting*, there the *form* which they are said to *constitute*, can have no *existence*. Indeed, this is a truth so self-evident, as to command our immediate assent. But when we admit *this*, what are we to understand by the expressions, "disguised forms," or "one form doing homage to another by wearing its livery?" Is not this to make a distinction between the *form* and its *symptoms*, and to suppose that the *one* may exist independently of the *other*? Is it not in fact to say that a thing may exist and not exist at the same moment?

The only manner that I can discover of getting out of  
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this difficulty, is by supposing that when the author of those expressions made them, his mind passed beyond the *form* to its *cause*. But here we are frightened by the spectre of nosology! A nosologist may, with propriety, or at any rate without any contradiction, talk of one *disease* being disguised under the *form* of another, because by a particular disease he understands more than a train of symptoms, or a *mere form* of something, and includes in his idea of it, a specific action, or a specific matter, which is capable of assuming and being disguised under a variety of appearances. Thus, when Senac talks of intermittents being disguised under the form of hemicrania or pleurisy, he means nothing more than that the cause which usually produces the symptoms of intermitting fever, instead of appearing under its usual symptoms, has assumed those of the disease under which it is disguised; and in prescribing in such cases, he neglects symptoms altogether; he shuts his eyes against the form, and attends to the cause and that alone. That he is not guided by the symptoms in those cases is evident, because his remedies are not adapted to them; they are such indeed as would tend to aggravate the complaint, supposing it to arise from any other than the cause of intermittents, or at any rate, supposing it to be owing to its usual cause. For example, he mentions, that being called to a person labouring under all the symptoms of pneumonia, he commenced the treatment, as usual, with the antiphlogistic remedies; but finding that instead of relieving the complaint, they rather increased its violence, he was led to suspect that the disease was a disguised intermittent, that the symptoms of pleurisy in this case were not owing to their ordinary cause, and were therefore not to be removed by their ordinary remedies; he gave bark, and the patient was cured. Whether this opinion was correct or incorrect, is not material to the purpose of this essay; if there was no truth in it, there was at any rate no inconsistency.

But the case is far different with respect to the unitarian. He acknowledges but *one* cause for every variety of symptoms; certainly then, according to his theory, the *same* symptoms must in every instance have the *same* origin. And as I have already intimated, there is a material difference between the disguise of a *substance* or *thing*, and

its mere form. Matter may assume an infinity of shapes in succession, and still be the same; but a *form* can never change without losing its *identity*. It is something obvious to the senses, incapable of disguise, and must always be what it *appears* to be. I may mould a bit of wax, for example, into a thousand shapes, and it will still be the same wax under all these forms. But will it be said that it can possess two forms at once, the one obvious and the other concealed? That if it be moulded, first into the shape of a ball, and then into that of a cube, that here the round form is not destroyed, but only disguised under the one which succeeded it? If we admit *this*, if we allow that one form may exist without any evidence whatever of its existence, we can as readily conceive that any number of forms may exist in the same manner, and then, instead of *one* form, every substance may be considered as possessing *all* the forms which in the lapse of time may have been connected with it, all of which are disguised under the one which presents itself to our senses.

There will then be no impropriety in saying, that a blue flame is disguised under a red flame; that a snow-storm is disguised under a hail-storm; that a triangle or a square is disguised under the form of a circle; or that half a dozen different forms of disease are disguised under one form, of which *alone* there are any evidences either to our senses or our reason.\*

I have endeavoured to show that the only intelligible construction which can be given to the expressions that have been commented upon, is a nosological one. Let us see whether the charge of nosological practice be not equally well founded. Indeed, if the theory be nosological, the practice, to be consistent with it, must be so too; so that if the first be admitted, the second may be considered as almost a necessary consequence.

The history of epidemics is the source from which have been derived most of the arguments and facts that have been employed for the overthrow of the systems of noso-

\* To illustrate the unity of disease, it has been compared to "*fire*," which assumes different appearances, and produces different, and even opposite effects, without changing its nature. And likewise to "*storm*," which, whether it appears in the shape of hail, rain, or snow, is said to be still an *unit*, viz. "morbid action in the atmosphere."

logy. It is in this history that the expressions which have been commented upon most frequently occur, and it is here also that we find the instances, of what appears to me to be a nosological practice. No sooner does an epidemic, the yellow fever for example, make its appearance in any place, but all the symptoms of disease, however unlike and opposite they may seem to be, are made to "do homage" to it, and are all prescribed for in the same manner. Indeed, symptoms are hardly attended to at all, it is only necessary to complain in order to be treated as labouring under yellow fever. All those forms of disease which may occasionally present themselves, are considered as nothing else than "yellow fever disguised," and are all included in the same treatment. Those physicians who should happen to prescribe for dysentery, or any other form of disease which might exist at the time, in the usual manner, would be charged with prescribing for the *name* of the disease, rather than for the condition of the patient; *but if*, as it has been said, the only means of ascertaining the state of the system, is by attention to the symptoms, and if the *same* symptoms always require the *same* remedies, I should suppose that such practice, so far from being *objectionable*, was the *only one* which could be justified by the principles of the unity of disease.



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## R E V I E W.

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*Medical Communications and Dissertations of the Massachusetts Medical Society. Published by the Society. Vol. II. Part 2. 8vo. Wait & Co. Boston. 1813.*

THE greater part of this publication is occupied by a memoir of the worthy presiding officer, John Warren, M. D. entitled, "*A View of the Mercurial Practice in Febrile Diseases.*" It is an elaborate performance, by a gentleman who has enjoyed the benefit of long observation and experience. The remedy, whose history he writes, is in extensive use. These considerations give it a corresponding degree of importance.

Very often has quicksilver been mentioned as a remedy in the course of our work. A reference to some of the more prominent communications on the subject, may be useful, by enabling our readers the more easily to find them, and consult them in a connected series. In *Med. Repos.* vol. i. p. 500, is inserted *Holyoke's* History of the Mercurial Practice, particularly as relates to its introduction into the neighbourhood of Boston. In vol. ii. p. 202, is a Review of *Stuart's* Inaugural Dissertation upon the salutary Effects of Mercury in Malignant Fevers. *Lee's* Experiments and Observations on Mercury, are contained in vol. iv. p. 356. In vol. v. p. 97, are *Ogden's* Letters on treating the Malignant Sore-Throat with Mercury. *Glover's* and *Brown's* remarks on one of the foregoing memoirs may be seen in vol. vi. p. 241 and 265. In vol. x. p. 21, Dr. *Comstock* recommends the free exhibition of it in bilious remitting fever. In the same volume, p. 337, Dr. *Wheaton* states his objections to the employment of it in yellow fever. He continues his opposition in vol. xiii. p. 139. An expeditious mode of preparing Mercurial Ointment is contained in vol. xi. p. 310. Dr. *Willey's* Justification of the liberal Administration of Mercury, and of its salivating Effects, is inserted in vol. xii. p. 227. The opinion of Dr. *Moseley*, concerning its efficacy in remov-

ing the disease caused by the bite of a mad dog, is stated in the same volume, p. 383. Its advantages in consumption, are detailed by Dr. *Black*, in vol. xiii. p. 120. The judicious Essay of Dr. *Hazletine*, on the preparations of mercury, and the learned Dissertation of Dr. *Francis* on its medical character, are fresh in the recollection, since they were noticed in vol. xvi. (N. S. vol. i.) at p. 17 and 71.

A sensible youth, who for the first time made a visit to a certain great city, was highly gratified by the splendid appearance of the houses and shops as he passed along the streets, and observed to his father, who accompanied him, that so many fine buildings, and such an amount of grand display, indicated a world of happiness: true, replied the old gentleman, but you must remember that a full proportion of misery resides also under every roof. The source of this suffering is the natural and constitutional infirmity of human nature. The spirit and the body of man are alike subject to disorder. Both his moral and physical organization is liable to accident and malady.

When the latter of these cases occurs, the remedy for the evil belongs to the province of medicine, and the sufferer is termed, in technical language, a patient. Indeed, occurrences of the former class, as far as they are corporeal, ought to be referred to the same department, and treated by a medical regimen.

To an inquirer into the structure of the human frame, the variety and complication of its parts, are among the most striking appearances. The organs of sense, of motion, of respiration, of concoction, of generation, and of secretion, are wonderfully distributed and connected. The different systems, such as the nervous, the lymphatic, the sanguiferous, the muscular, and the osseous, make an admirable intertexture of substance. The complexity of the mechanism renders it difficult to be understood. Each organ and system may be considered as possessing an individuality of its own; yet ministering at the same time to the symmetry and economy of the whole. Every one of them may be disturbed in its functions. Each departure from the healthy tone and beat, is a morbid state of being. This condition is denominated *disease*. The degree of deviation from health, is measured by the violence and

duration of the distemper. The obvious occurrences in diseases, or, in other words, the circumstances and incidents that more readily present themselves to the observer, are called *symptoms*.

As the immediate causes of diseases were hard to ascertain and define, it frequently happened that diseases were not well distinguished from symptoms. It sometimes happened that what was deemed by one observer a symptom, was by another considered a disease. By some, a disease was declared to be but an aggregate of symptoms. There were yet others who declared the doctrine of symptoms to be fallacious, and attempted to detect the actual state of the body by tracing events to their causes.

In this undertaking, the mind of man has shown a remarkable disposition to generalize. Originally, it seems to have been an opinion, that diseases were almost as numerous as symptoms. For each, it was imagined that nature had provided, or art could prepare a remedy. Where ailment was free from complication, it might be cured by simples, particularly such as the vegetable kingdom affords. If it was an assemblage, hard to develop and disentangle, a prescription containing chemicals and galenicals in a corresponding medley, was compounded to counteract it.

At length semeiology, or the doctrine of symptoms, was succeeded by nosology, or the doctrine of diseases. A group of the former constituted an individual of the latter. Though symptoms remained as frequent and various as ever, the number of distinct diseases was diminished. Popular names had been affixed to the more common and prominent forms of sickness. Physicians adopted or altered these according to their several fancies. Schemes of arrangement were invented. Diseases were reduced to method. By degrees, classes, orders, genera, species, and varieties were delineated. Successive labourers in this field simplified the task. Diseases underwent further reduction. And nosology assuming the form of a science, was dignified with the appellation of system.

But these studious performances were by no means satisfactory to all. There were some who liked nosology as a branch of knowledge well enough, who nevertheless were dissatisfied with every system of it that had been published.

Some persons approved the works of a particular mas-



ter; and thereby Sauvages and Pinel became the standards of excellence for the French; Sagar and Vogel for the Germans; and Macbride and Cullen for the British. And there were others who considered it a vain and visionary pursuit, pretending, by a pompous nomenclature, to substitute words for things, and imposing upon the understanding, a similitude between its pretended accuracy, and the conclusive certainty which distinguishes botany, zoology, and the other departments of natural history. The chief use of a nosological arrangement, is to enable a professor to teach with ease, and the pupil to learn with pleasure. In the lecture-room, the phenomena of diseases, with their diagnostics, causes, and cures, are pourtrayed in the most engaging manner, and exhibited in their complete and finished forms. For the benefit of education, it is perhaps best that it should be so. Though the student, after all the speculative lessons he has learned in the schools, will find it necessary to acquire a new stock of information in the sick chamber, and to qualify himself practically for business at the bed-side.

Among the adversaries of nosology, were those who believed life to be a forced state of existence, and to consist in the excitement produced by stimulus acting upon excitability. This sect of medical philosophers also said, that by a due adaptation of the exciting power to the susceptibility of the body for receiving it, health was produced; whereas direct debility, from too little stimulus, sthenic diathesis, from more than the salutary degree of it, and indirect debility, from its exhausting effect, were the modifications of disease. Consequently, all the possible morbid conditions were resolved into the effects of too much or too little excitement. The whole remedial course consisted in the proper addition and subtraction of stimulus. Proceeding from the supposed knowledge of causes, they disregarded the indications of symptoms, they rejected the nomenclature of diseases, and proceeded at once to raise or lower the excitement to the healthy point. Those were the followers of Brown, whose glory it was to have taken "the high priori road" in physic, and to have ascertained that there were usually but two diseases, or at most, reckoning the debilities as distinct, no more than three.

The disciples of Darwin, if any such there be, may be ranked among the opposers of nosology; at least, of all nosology save his own. Adopting the Brunonian principles, he builds upon them another and a very different superstructure. He considers the animal machine as characterized by four remarkable properties, viz. irritability, sensibility, voluntariness, and association; and that a disease must belong to one or another of these constitutional departments. All the symptoms which accompany diseases, and all the descriptions of both, that occupy the pages of books, therefore, arise from distemperature in the parts of the body which subserve, respectively, the functions of irritation, sensation, volition, and sympathy. Here then are four diseases, or four great heads, to which all diseases and symptoms may be referred; and each of them modified by excess and diminution of sensorial power.

Another and a different pathology was maintained by a famous lecturer in London. He taught that every thing vital consisted in what was termed action; and that the same organs could only sustain one action at a time. Health was as unity; but disease could be indefinitely varied. The idea of a disease was merely that of a morbid action in some part, or in the whole of the living body. The cure was to be attempted by a remedy capable of changing that action. The effect of this would be to substitute the remedial action for the morbid action. And as the latter was intended to be the more safe and less violent of the two, the constitution was to be redeemed from danger, and gradually restored to its sound and entire condition. Any thing that could change the distempered action, might remove a disease. And this might be accomplished by exciting a new disorder, of greater or less violence than the original one, or by a renewal of the pristine healthy action. A door was thus opened for endless expedients; and the credit of a Hunter gave a sanction to the most empirical projects. A human creature may be infected with lues, and may be slabbering with a salivation, and may be agitated with a tertian fever, and may also be foul with the itch, at one and the same time, as we have seen. Still it is said, this fourfold action does not subsist in the identical organs, vessels, fibres, or nerves, but in as many different sets or symptoms; and to work a cure, the action

of each must be changed. This seems very much like a surrender of the question, or explaining it away.

Little remained to be done, in tracing and pursuing this subject, to prepare the mind for a doctrine which asserted the *unity of disease*. This was propagated by a celebrated American professor. Health was one thing, and disease was but its opposite. The real state of the constitution, and not the nomenclature of the system-mongers, was to be regarded. Nosology was proscribed as mischievous or pernicious. A two years attention to the pulse, would enable a tyro to judge perfectly what the morbid state of the constitution was. Profound acquaintance with anatomy, was by no means a necessary qualification. The convulsive throb of the arteries could be ascertained without an acquaintance with the structure of the heart. The physical sciences might be acquired or not, as the student pleased. To be deeply conversant with medical writings was a disadvantage. The elegancies of classical literature were unworthy of attainment. Instructed in the dogma of the unity of disease, and of the pulse as its index, the young physician boldly commenced his career of practice, fully satisfied, that instead of having a legion of foes arrayed against him, he had but a single adversary to contend with. The difficult science of medicine was thus reduced to an easy art. The materia medica, with its pharmacy and chemistry to aid it, underwent a corresponding retrenchment. The greater part of the articles were laid aside, as unnecessary, superfluous, or seldom required. Delightful was the discovery of the error of Hippocrates, when he pronounced that "life was short, art was long, opportunities fleeting, and judgment difficult;" for modern reasoning had proved, that *life was long enough; and art short enough; and opportunities frequent enough; and judgment correct enough*, for all the purposes of a popular and extensive practice. Consoling was the reflection, that the pure seed of knowledge could be obtained without any admixture of chaff.

An opinion that diseases were few, would naturally lead to a diminution of their remedies. And he who was convinced of their unity, would simplify his means to the uttermost. The believers in an *universal medicine*, carried this sentiment to its full length. They argued that there



was such a catholicon, or that it could be prepared; and from the unity of the remedy, was inferred the corresponding nature of the disease.

In these days of intelligence and improvement, the simplifiers of the practice, whether of the sect which denounces the writings of the nosologists, or of that which neglects the preparations of the apothecaries, have extolled quicksilver more than any thing. This metal is their panacea. It is the alpha and omega of their remedies. Where other medicines are to be employed, it is good to begin with. Where they have been inefficacious, it is transcendent as a last resort. In syphilis, it ranks almost as a specific. In hepatitis, it is the physician's and patient's best hope. In enlargements of the spleen, and obstructions of the abdominal viscera, it is as sagaciously recommended. The yellow fever, and other fevers of threatening and malignant type, are declared by witnesses of great weight and respectability, to yield to its curative powers. Is the sufferer racked and disabled by obstinate rheumatism? charge his constitution with quicksilver. Is he threatened with a consumption of the lungs? put him upon a course of quicksilver. Are the intestines infarcted with fæces, or infested with vermin? try the virtues of quicksilver. Is the skin deformed with tumors or blotches? let quicksilver be instantly applied. Has he the itch? ply the quicksilver. Are his bones disfigured with nodes? do the like. In short, whether the patient is assailed with one of the *mala majora*, or the *mala minora*, the same omnipotent remedy will answer; in the former case, because it is so efficacious; in the latter, because so gentle.

From an early day, the Asiatic nations bestowed upon this metal the same name that had been given to the planet which is situated nearest to the sun. Mercury now, is more familiar to physicians than to astronomers. And the same hieroglyphic mark that signifies this celestial orb in the calendar, denotes the mineral product in the dispensatory.

Mercury thus is prescribed for its virtues as a cathartic. It is excellent as an alterative. It is equally beneficial as a deobstruent—It is no less efficacious as a febrifuge—It pervades the blood-vessels—It explores the lymphatics—It scours the glands—It excites the nerves—It accelerates

the secretions. In a word, mercury performs the part of a general stimulant, in an eminent degree.

Such is the remedy upon which Dr. Warren has undertaken to write. The tracts, already extant, upon it, are very numerous, and would make a considerable library. He limits his inquiry, however, to its efficacy in febrile diseases.

The work before us is divided into four parts. The first treats of the general history of the practice, from its introduction as a febrifuge, about the middle of the 18th century, to the present time; when it is extensively employed, and, by some physicians, deemed a specific in contagious epidemics. He thinks it clear that it obtained credit for curing fevers, in America, at a time when many prejudices prevailed against it in Europe. In New-England, strong prejudices were originally entertained against it by the people; and physicians were obliged to use it secretly, and without the knowledge of their patients. Gradually, the administration has progressed from one or two grains, to one or two hundred a day. Under this head, he treats of mercury and its preparations; of their operation on the human body, mechanically, specifically, and as stimulants; of their effects in changing the action of the system; and of their agency in provoking salivation.

In his second part, Dr. W. gives a general description of epidemic fevers, particularly as distinguished by phlogistic or typhoid diathesis, and as being contagious or otherwise. He then treats of the practice in epidemics with mercury. He next states the general use of it in fevers, combined with hepatic and other visceral affection.

His third part contains a view of the mercurial practice in typhus. He says, the slow nervous, or putrid fever, is of a totally different character from the yellow fever, typhus icteroides, or typhus cum *flavedine cutis*, that appeared in Boston, during the years 1798 and 1802. He describes a fever of this character, marked by uncommonly malignant symptoms, which prevailed there during the winter of 1804-5, and illustrates his description by cases. Dr. W. afterwards proceeds to the examination of the yellow fever, which prevailed at Boston in 1798, and which, he says, was never known to be epidemic there until that time. Yet, no evidence could be produced of its importa-

tion from a foreign place. (p. 462.) He states the opinion entertained by some practitioners, that mercurial remedies are peculiarly adapted to diseases of *contagion*, but are wholly improper in those of *local origin*. He combats with remarkable candour and intelligence, the hypothesis of the introduction of these distempers from abroad. And he thinks the prophylactic power of mercury is indisputable, when taken, as in his own case, to the amount of a grain of calomel daily, so as to keep up a constant soreness of the gums.

The author, in his fourth part, considers the mercurial practice in the small-pox, measles, throat-distemper, croup, hydrocephalus internus, pneumonia and pleurisy, consumption, dysentery, and rheumatism. In his concluding observations, Dr. W. presents a good epitome of his doctrine. Oxygen, as he thinks, acts remedially as a stimulus upon the vascular system, and changes the blood to a more florid hue. Articles of the *materia medica*, containing oxygen in such a state of combination as to be introduced into the constitution, may increase the action of the muscular fibre, and change the condition of the body. Mercurial preparations appear to be well adapted for this purpose, particularly their oxyds. As these operate more powerfully than simple oxygen, the metal, as well as the oxygen, may be supposed to be serviceable, in increasing the force of the circulation, and thereby curing many diseases. Yet they are not to be considered as exerting any specific power, even in lues: but by the efficacy they possess of increasing the action of the stomach and intestines; of promoting the secretions generally, and those of the mouth in particular; of altering the tone of the heart and arteries; and of thereby breaking disturbed functions, and interrupting diseased associations. They are most proper for febrile diseases of the phlegmasial order; the presence of inflammation being no impediment to their exhibition, as their efficacy in most phlogistic distempers, and in the yellow fever itself, seems to prove. Venesection is often a proper preparative. The cold and warm bath may be valuable auxiliaries; the former by its tonic power, and the latter by moderating the violence of salivation. He considers sulphuretted hydrogen as the most efficacious remedy for removing salivation; and intestinal purging, as prolonging that uncomfortable discharge.



The other papers in this collection are the following: *Bills of Mortality for Amherst, in Massachusetts, during the years 1809-10-11-12.* This is a good addition to the tables, mentioned in our vol. xvi. p. 166, and others contained in various parts of our work. The observer is Dr. Robert Cutler. The town is in Hampshire, and contains almost 1500 inhabitants.—*On the use of Sulphate of Copper in Uterine Hemorrhage.* By Joshua Fisher, M. D. &c. The author states, that in hemorrhage, attending pregnancy and parturition, and in menorrhagia, from debility, he has found great benefit from the exhibition of a solution of blue vitriol in proof-spirits. It manifested its styptic virtue almost as soon as it reached the stomach. The medicine was prepared according to the following receipt:

Take of Sulphate of copper, calcined, one drachm,  
Bark of cassia pulverised, two drachms,  
Proof-spirits, one pound.

Simmer them a quarter of an hour in a glass vessel, put the whole in a bottle, and decant for use. The medium dose is forty drops. In chronic cases, two or three doses a day may suffice. But in urgent cases, a dose may be given every hour, or pushed as far as the stomach will bear. Should it prove emetic, there will be no cause for alarm. Where pain accompanies the malady, opium ought to be joined.—*Observations upon Menorrhagia and Leucorrhœa; and the beneficial employment of Blisters, Acetite of Lead, and the Sub-muriate of Mercury in those Diseases.* By Dr. James Mann. Epispastics, upon the region of the os sacrum, were found efficacious in restraining menorrhagia. Saccharum saturni, in small doses, by the stomach, produced a salutary effect. Calomel and opium are sometimes commixed with the lead, and their benefits are felt, not only in menorrhagia, but in its kindred malady leucorrhœa.—*On the Effects of the Application of a hot Iron in Cases of Lock-Jaw.* By Thomas Babbitt, M. D. In two cases of this alarming symptom, one from a wound in the thumb by a file, and the other from the debility of fever and evacuation, a heated bar moved along the spine of the back, between the occiput and sacrum, for about twenty minutes at a time, and repeated at intervals, is reported to have produced the most happy result. As the metal seems not to have been used to cauterize, we wish he had given

some rule, whereby a judgment might have been formed, of the most proper temperature.—*A Dissertation on Heat and Cold. By Thomas Webb, M. D.* This inquiry is more especially directed to the subject of animal heat. After stating the theories of Leslie and Crawford, he examines that of Mr. John Bell, which considers the heat of animals as not a mere evolution in the lungs, and a distribution thence through all the parts of the body. The author favours the opinion, that animal heat is produced by the action of the blood-vessels; not merely in the lungs, but in every part of the system. By the perpetual chemical changes going on within them, a constant supply of caloric is evolved. The heart and lungs serve only to regulate the heat.—*On Diseases of the Articulations. By Aaron Dexter, M. D.* In this dissertation, Dr. D. has given some cases from his own practice, on diseased joints, particularly the knee, ankle, and hip. He has added to these, the observations of Mr. James Russell and Mr. Astley Cooper, two distinguished British surgeons; and the opinions of several other professional men. He relies for relief upon severe blistering by cantharides, and keeping up the external irritation, and discharge by emplastrum calidum, or, what he prefers, the leaves of the plant Savin made into an ointment with hogs-lard and bees-wax. Strict attention must be paid to the remedies and regimen, for a twelve-month at least, to effect a cure. Leeches and saturnine applications may be occasionally expedient. By undaunted perseverance in the plan proposed, the author professes great confidence in the practice.—*On certain Epidemic Diseases, which prevailed in the County of Worcester, Massachusetts. By the Hon. Oliver Fiske, M. D.* This is the history of a malignant distemper, that afflicted the town of Worcester, during the year 1796. It assumed the form of dysentery, with great prostration of strength, apthæ, fever, and dark cadaverous hue; and was unusually fatal. To this narrative is subjoined an account of the disease called petechial fever, which has more recently visited that district. This may be considered as a valuable supplement to the information, already spread over the pages of the Medical Repository, on the origin, progress, symptoms, and treatment of the spotted fever.

*The MODERN HERMES; or Experiments and Observations on different Methods of combining Quicksilver with Acids; in supplement of ancient Chemistry on Mercury. By Robert Stott, Esq. Dumfries. 1811. 8vo. pp. 146. Johnstone & Co.*

**N**OTICE is taken, at this time, of the present publication, on account of the connection it has with the principal subject contained in the preceding article. Every thing relative to quicksilver is interesting; and in an especial manner, are those tracts worthy of consideration, which elucidate its preparations in pharmacy, and its virtues in medicine.

Mr. Stott inscribes his work to the practical chemist, who, as he hopes, will duly appreciate its value; and to whom, he trusts it will prove of more real utility, in the information it imparts concerning the combination of quicksilver with muriatic acid, than all that has been published on the subject, for the last century and a half.

He appears to be an experimental inquirer, and commences his work by the chemical history of mercury, a description of his laboratory and apparatus, and of certain general remarks on digestion and sublimation.

Then he relates the effects of heat and air upon the metal.

Next he recites his experience as to the operation of the mineral acids, as they are termed, upon the metal; such as the sulphuric, nitrous, muriatic, carbonic, arseniac, fluoric, and boracic.

Afterwards, he examines the combinations of quicksilver with vegetable acids, to wit, the acetous, citric, oxalic, succinic, benzoic, and tartaric; and delivers his sentiments like a real operator.

Lastly, he considers the products of the animal acids with this metal; and tells what effects result from its union with the prussic, phosphoric, and sebacic.

That our readers may comprehend the scope and object of Mr. Stott's labours, we lay before them some of his conclusions from the facts relative to the combination of quicksilver with muriatic acid, from page 116 and seq.

“Hence I deduce the following conclusions. A given



quantity of muriate of soda, (that is, the acid contained in a given quantity of it,) assisted by red oxyd of iron, can take up its weight, and a half more of quicksilver in form of muriate; and, with a long digestion, twice its weight of quicksilver, in form of corrosive muriate; and by oxyd of iron, contained in the sulphate of iron, employed to expel the acid from the muriate of soda, can take up nearly its own weight of quicksilver, in form of muriate; and, by the help of its own weight of black manganese, can take up one half more than its own weight of quicksilver, in form of muriate; and sharpened by the joint effects of manganese and of red oxyd of iron, can reduce fully more than double its own weight of quicksilver to the state of muriate: making no allowance, in any of these cases, for the muriatic acid detained in the iron or manganese, and which certainly, if there were any way of disengaging it, might take up more quicksilver.

" Sulphuric acid again barely dissolves its own weight of quicksilver, so as to make it fit to be taken up by the acid in muriate of soda, partly in form of corrosive muriate, and partly in form of muriate, in virtue of a double exchange; while nitrous acid, duly diluted with water, can reduce double its weight of quicksilver to a fit state to be taken up by the acid of muriate of soda, somewhat modified by oxyd of iron, in form of corrosive muriate of quicksilver. What a striking difference between the effects of these two acids on quicksilver!

" The power of the nitrous acid, in preparing quicksilver to be taken up by the muriatic, appears, however, to the greatest advantage in the seventh process; for there, three ounces of nitrate of potash, which cannot be supposed to yield above one and a half ounce of acid, reduce fully eight ounces and a half, nine nearly, of quicksilver, to a fit state to be taken up by the acid; in three ounces of muriate of soda in the state of muriate of quicksilver, three times the weight of the nitrate of potash; and hence, one would be led to imagine, that in this case the nitrous acid was so economised, that none of it escaped, till it produced its full effect on the quicksilver.

" Still more admirable, however, are the effects of nitrous acid in a concentrated form, and assisted by a little oxyd

of iron, &c. as in the last process, where one ounce of muriate of soda, with one ounce of nitrate of potash, and the oxyd of iron, or other metal or earth, &c. contained in the sulphates employed to disengage the acids from them, takes up three ounces of quicksilver in the form of muriate.

“ Thus, on taking a review of the whole, there seem to be only ten substances capable of effecting an union between quicksilver and muriatic acid, (though it is not improbable there may be many more,) namely, the oxyd of iron or colcothar, black manganese, the oxyds of copper and zinc, contained in sulphates of copper and zinc; argil and magnesia contained in sulphates of argil and magnesia; and oxyds of lead and quicksilver prepared by heat and air, and sulphuric and nitrous acids: the eight first operating, as it seems to me, by changes wrought on the muriatic acid, and the two last by intervention, or by first taking possession of the quicksilver, and afterwards quitting it in such a state that the muriatic acid can unite with it.

“ The effects of manganese seem to be nearly equal to those of oxyds of iron, copper, and zinc, and the effects of the two first, conjoined in the dry way, rather better than those of either of them separately in the moist way; whilst muriatic acid falls considerably short of either of them in this respect. But, above all, the advantage appears eminently conspicuous on the side of the nitrous acid, and particularly of the nitrous acid in a concentrated form, the muriatic acid being at the same time assisted by oxyd of iron, &c.

“ Again, magnesia in sulphate of magnesia, seems to be rather inferior to argil (clay) in sulphate of argil, and both of them come short of manganese and oxyds of iron, copper, and zinc; whilst oxyd of lead, prepared by heat and air, comes short of all other oxyds and earths, lime in sulphate of lime excepted: but oxyd of quicksilver, prepared by heat and air, or even by nitrous acid, possesses the peculiar advantage over all other metallic oxyds, that the whole of it rises in combination with the muriatic acid; whereas, in all other cases with oxyds of metals, a part of the muriatic acid is always detained, combined with them, in the residue.”

We likewise give them his process for preparing corrosive sublimate and calomel, in hopes that it will be seasonable and instructive—p. 120.

“ Take of

“ Sulphate of quicksilver, prepared with two parts of sulphuric acid, and one of quicksilver, and pressed for a long time with a strong heat, to bring it as much as possible to a solid mass, although it can never be thoroughly dried, any quantity;

“ Muriate of soda, an equal weight.

“ Triture them together, and put this powder into a florentine flask, and apply heat, that the corrosive muriate may rise above the mass of sulphate of soda.

“ For muriate of quicksilver,

“ Take of

“ Sulphate of quicksilver, prepared with equal weights of quicksilver and sulphuric acid, five ounces;

“ Metallic quicksilver, three ounces;

“ Muriate of soda, dried, two ounces and a half.

“ Rub them into a deep blue powder, put it into a flask, and sublime muriate of quicksilver.”

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*An Eulogium upon Benjamin Rush, M. D. Professor, &c. Written at the request of the Medical Society of South-Carolina; delivered before them, and published at their request. By David Ramsay, M. D. Member of the South-Carolina Medical Society. Bradford & Inskeep. Philadelphia. 1813. 8vo. pp. 140.*

WE long ago wished that the above task might devolve upon the eloquent cotemporary and professional friend of our departed sage, upon Dr. Ramsay, who is the celebrated historian of our national independence—the biographer of Washington—the statistical writer of a considerable state, experienced and renowned in medical philosophy.

It reflects great honour on the Medical Society of South-Carolina, and the citizens of Charleston, to have concurred in the solemn consecration of an affecting and



instructive monument, inscribed to the memory of Benjamin Rush! It is also well worthy of another of their fellow citizens, who, within twenty or thirty years, has attracted the notice of monarchs, and received testimonies of their personal respect; who has deserved the fellowship of all learned men, the praises of the world, distinguished honours from his countrymen; and has been entombed at last, amidst tears and expressions of mourning, resounding from all quarters of his country.\*

It would be much easier for us to enumerate all the material facts and characteristic traits of talents or virtue, attributed to the subject of this literary production, than to describe the feelings we have experienced in reading it. These are to be judged, it is true, from particular and personal circumstances, from which the writer, who was honoured with the friendship of the deceased, must have derived more painful or grateful recollections. Nevertheless, on a subject so much connected with national honour; with the advanced progress of science, and diffusion of philanthropic acts; with numerous examples of public and private virtues, not a single reader in this country but must feel equally interested with ourselves by a perusal of the oration now recommend to their attention.

The author has not, in its composition, strictly followed the didactic rules of that species of oratory. He did not require those arts by which an ordinary subject can equally be encompassed in the same bounds that a more sublime one would require. After a dignified introduction, and obvious biographical matters, he gives a detailed account of the writings, systems, and medical doctrines of Rush, as they progressively fixed his attention and inquiries, during a long life of practical observation. On account of this instructive digression we principally recommend the work. The numerous writings and theories of the Pennsylvanian professor, are not, perhaps, so well known at home as they are abroad. *Nemo propheta in domo sua*. Many great and scientific authors have existed only for the succeeding

\* An eulogium, in memory of Rush, was delivered, last June, before the College of Physicians and Surgeons of New-York, by Samuel L. Mitchill, M. D. Professor of Natural History, &c. and another was delivered in Philadelphia, the 8th of July, by the Rev. William Staughton, D. D. at the request of the graduates and students of medicine in the University of Pennsylvania.

generations; and how far we may, on this side of the Atlantic, differ from the apathy and indifference, which the Europeans have shown for many of their most celebrated writers, a short space of time only will prove.

As to theoretical views and systems in medicine, such as Dr. Rush professedly embraced and taught, it is more difficult for us to decide a preference, than to advise the young to seek knowledge at home as well as abroad; and the old not readily to renounce, in practice, their accustomed tracks, for unexplored ground and uncertain paths. We know that systems are easily framed and quickly multiplied. Hence, in every age and country, theorists have been numberless, but accurate observers few; among these we must indisputably rank Rush, and with that recommendation, leave the reader to judge how authoritative his doctrines must be. Such as they are, however, we feel confident, that, in a practical point of view, they consistently lead to modes of treatment best calculated for the climate, atmospheric constitution, and frequent tempestuous variations of temperature in North-America. To this powerful agency we owe the existence among us of an idiosyncrasy, which he justly defines a *morbid excitement* in the blood-vessels; but with still more truth, we should ascribe the same to the greater proportion of solid animal food, which nature dispenses to men more bountifully in the new world than in the old! So far Dr. Rush has built his principal doctrines, like Hippocrates, on the influence which natural and external causes have on the human constitution. We apprehend, however, that his system, admirably adapted to fevers, epidemics, &c. could not become a general rule all over the world. Nay, we suspect that in great geographical sections, changes of atmospheric constitution may, for a time, take place and overturn the received ideas on the nature and form of our diseases. Of such singular and astonishing alteration, we have had convincing proofs, during several years, throughout the eastern and middle states; firstly, by the terrible effects of the *spotted fever*, and next by those of the *peripneumonia notha*. We mention those names only to fix the attention to the principal morbid character which has prevailed under many more different forms. In this predisposing cause of dis-



ease, bleeding has generally proved fatal—and it prevailed yet when Dr. Rush died!

Not wishing any longer to lose sight of our orator, we return to the masterly manner in which he describes some of the best moral and characteristic features of our sage.

“ It is matter of wonder how a physician, who had so many patients to attend; a professor, who had so many pupils to instruct, could find leisure to write so much, and at the same time so well. Our wonder will cease when it is known that he suffered no fragments of time to be wasted; and that he improved every opportunity of acquiring knowledge, and used all practicable means for retaining and digesting what he had acquired. In his early youth, he had the best instructors, and in every period of his life great opportunities for mental improvement. He was gifted from heaven with a lively imagination, a retentive memory, a discriminating judgment; and he made the most of all these advantages. From boyhood till his last sickness, he was a constant and an indefatigable student. He read much, but thought more. His mind was constantly engrossed with at least one literary inquiry, to which, for the time, he devoted his undivided attention. To make himself master of that subject, he read, he meditated, he conversed. It was less his custom to read a book through, than to read as much of all the authors within his reach, as bore on the subject of his present inquiry. His active mind brooded over the materials thus collected, compared his ideas, and traced their relations to each other, and from the whole drew his own conclusions. In these, and similar mental exercises, he was habitually, and almost constantly employed, and daily aggregated and multiplied his intellectual stores. In this manner his sound judgment was led to form those new combinations which constitute principles in science. He formed acquaintances with his literary fellow citizens, and all well-informed strangers who visited Philadelphia, and drew from them every atom of information he could obtain, by conversing on the subjects with which they were best acquainted. He extracted so largely from the magazine of knowledge deposited in the expanded mind of Dr. Franklin, that he mentioned to me, many years ago, his intention to write a



book with the title of *Frankliniana*, in which he proposed to collect the fragments of wisdom which he had treasured in his memory, as they fell in conversation from the lips of this great original genius. To Dr. Rush, every place was a school, every one with whom he conversed was a tutor. He was never without a book, for when he had no other, the book of nature was before him, and engaged his attention. In his lectures to his pupils, he advised them to 'lay every person they met with, whether in a packet-boat, a stage-waggon, or a public road, under contribution, for facts on physical subjects.' What the professor recommended to them, he practised himself. His eyes and ears were open to see, hear, and profit by every occurrence. The facts he received from persons in all capacities are improved to some valuable purpose. He illustrates one of his medical theories by a fact communicated by a butcher; another from an observation made by a madman in the Pennsylvania hospital. In his scientific work on the diseases of the mind, he refers frequently to poets, and particularly to Shakspeare, to illustrate the history of madness, and apologizes for it in the following words: 'They (poets) view the human mind in all its operations, whether natural or morbid, with a microscopic eye, and hence many things arrest their attention which escape the notice of physicians.' It may be useful to students, to be informed that Dr. Rush constantly kept by him a note-book, consisting of two parts, in one of which, he entered facts as they occurred; in the other, ideas and observations as they arose in his own mind, or were suggested by others in conversation. His mind was under such complete discipline, that he could read or write with perfect composure, in the midst of the noise of his children, the conversation of his family, and the common interrogatories of his visiting patients. A very moderate proportion of his time was devoted to sleep, and much less to the pleasures of the table. In the latter case, sittings were never prolonged, but in conversation on useful subjects, and for purposes totally distinct from the gratifications of appetite. In the course of nearly seventy years spent in this manner, he acquired a sum of useful practical knowledge, that has rarely been attained by one man in any age or country."

Dr. Ramsay closely follows, afterwards, the object of his

praise, through the long career in which he exercised so many acts of philanthropy. He shows him at first, as the founder and father of Dickinson College in Pennsylvania, in which a distinguished clergyman, Dr. Nesbit, was called from Scotland, to diffuse knowledge, habits of industry, and christian virtues in the new settled country. In another page, we see him engaged in organizing the free-schools, binding all their pupils by his rules and plans of education, best calculated to associate them as the hope of the republic, which totters unless it is founded upon virtue, and upon religion, which is the voucher of it. The Philadelphia Dispensary comes next, miraculously erected, as it were, from the income of the lecture of a blind philosopher. It was Rush who convened all the feeling members of the community to assist at that interesting display of wisdom, concentrated by the loss of one sense ; but the good effect of it, he converted to an incalculable advantage. As the gold-beater, who can with a few guineas gild an immense space of ground, Rush rendered benevolence *ductile*, like that precious metal, and he prepared for thousands of the present and future generations, the balms that heal the wounds, &c. That institution was the first of the kind in the United States, and it became the model or the parent of all others in our large cities.

Another interesting view of philanthropy is disclosed to our eyes by the orator, in a society, in which Rush laboured with Franklin to institute inquiries on political subjects, with a view of adding to the benefits of the revolution in the government, those of a sound jurisprudence. It was a great error indeed, that of exposing to public view, and to the scorn of the members of society, convicts loaded with chains, oppressed by labour—still more debased by occasional vices ! We are told that criminal acts are encouraged by example ; therefore, these must be ultimately promoted by insults incessantly offered to the feelings of humanity ! This consideration struck Rush, and a few other eminent characters, who, through great opposition, obtained the repeal of an absurd law, and criminals were remanded to confined labour and punishment. His zeal contemplated the adoption of a still greater principle of distributive justice, as yet neglected, or ill-conceived in its consequences—the abolition of the punishment of death !



Men should bear in mind, that by their social or collective assent, they cannot alter the nature of an act, which (murder) is deemed a great crime, in their private capacity; nor can they take away, even for the public good, what they could not restore for the same motive; nor can they, at any period of human life, reasonably proportionate the loss of it to any crime. No sooner had Dr. Rush manifested his determined reluctance to that part of the criminal code, than able oppositionists endeavoured to defeat his influence; but it was in vain: at last, punishment by death, in the state of Pennsylvania, was decreed only for murder of the first degree. Rush afterwards took in mind to pursue, and dislodge from all ranks of society, vices that are more injurious to health. But, let us pause, and rather invite the reader to seek for a more complete display of his acts of philanthropy, and other delineations of his humanity, in the production, which we cannot sufficiently notice in all its parts.

Next to this animated picture, Dr. Ramsay represents this truly great man in his avocations of a medical practitioner and lecturer. Under this last description, we cannot but admire the following perspicuous sketch.

"In lecturing to his class, Dr. Rush mingled the most abstruse investigation with the most agreeable eloquence—the sprightliest sallies of imagination with the most profound disquisitions; and the whole was enlivened with anecdotes, both pleasant and instructive. His language was simple, and always intelligible; and his method so judicious, that a consistent view of the subject was communicated, and the recollection of the whole rendered easy. His lectures were originally written on leaves alternately blank. On the blank side he entered, from time to time, every new fact, idea, anecdote, or illustration, that he became possessed of, from any source whatever. In the course of about four years, the blank was generally so far filled up, that he found it expedient to make a new set of lectures. In this way, he not only enlightened the various subjects on which it was his province to instruct his class, but the light which he cast on them, for forty-four successive years, was continually brightening. The instruction he gave to his pupils by lectures, though highly valuable, were less so than the habits of thinking and ob-



servation he, in some degree, forced upon them. His constant aim was to rouse their minds from a passive to an active state, so as to enable them to instruct themselves. Since the first institution of the medical school in Pennsylvania, its capital, Philadelphia, has been the very atmosphere of medicine, and that atmosphere has been constantly clearing from the fogs of error, and becoming more luminous, from the successive and increasing diffusion of the light of truth. A portion of knowledge floated about that hallowed spot, which was imbibed by every student without his being conscious of it, and had an influence in giving to his mind a medical texture. To this happy state of things, all the professors contributed."

We must beg leave to add, that as a medical practitioner, Dr. Rush eminently possessed the most endearing claims to the confidence of his patients; a scrupulous regard to every one's circumstances of life and education; and an ingenuousness, by which he never failed to renew the courage, or to raise the hopes of the sick; to stimulate the emulation and attention of nurses; and to solicit or to draw from the mind of every one, all the help that could better secure the success of his indications and remedies. With that peculiar talent, he was always sure to afford some relief. Thus, his presence was incessantly wished for; the greater the danger, the more repeated and importunate were his calls to the bed-side of the afflicted victims of disease; and these were answered, not in relation to future remuneration, but greatly and according to the sufferings and urgency of the case submitted to his judgment and responsibility. We confidently assert, that among the numerous gentlemen who have been associated in his labours, there is not one but could bear evidence to that unwearied and amiable disposition.

Dr. Ramsay has taken a particular delight in depicting his habitual piety to God; his familiar and conversant references to the Holy Scriptures; his conspicuous love of religion, and unsullied practice of christian virtues. It seemed, as he has justly observed on the subject of his early education, "that he had been trained for both worlds." That practical piety, and avowedly professed religion, was certainly to be revered, against which, none of the various denominations, sects, or professions of un-

believers could complain, on account of intolerance, hypocrisy, and duplicity of heart or intention. But, to define better the sublime and amiable features of his religious morality, let us insert his own reflections, as communicated in a letter to the author of the eulogium, who has favoured the public with them.

“ May your past misfortunes serve but to enhance the value of present blessings. The late Dr. Smith has happily said, in one of his sermons, ‘ were I to pity any man above all the human race, it should be that man who had never known affliction.’ In passing by the houses of our wealthy and prosperous citizens, who, perhaps, in the course of a long life, have never known a loss in business, a death in their families, the treachery of a friend, nor public or private slander, I am disposed to say with the Pharisee, ‘ I thank God I am not in the condition of those rich men.’ The most severe thing that can be said of a man, is, that he has had his ‘ good things in this life ;’ and the most comfortable thing that can be said to a man, who has hopes beyond the grave, is, that in this world ‘ he has had his evil things.”

Dr. Rush saw in this world “ his evil things.” If the exercise of patience and courage, of forbearance and fortitude, during a systematic persecution ; and if a long sufferance of the machinations of envy and malice, which left him unsullied by acts or errors of resentment, but avenged him by a complete triumph over his enemies, are adding still more greatness to his fame and memory, we should find fault with the eulogist of Charleston, who has been silent on that important subject. He, no doubt, has yielded to motives which we respect. There was certainly enough to be said in praise of his dead friend, without encountering the blush of any living or accused witness. Such a reserve gives also an additional lustre to the virtues he has eulogised, and to those he professes himself. As for us, we have a different responsibility as *reviewers*. In this work, the most ancient repository, or annals of American medical literature, we are obliged to qualify by facts, all the subjects of our editorial remarks, even in a production so nearly connected with our scientific subjects, and within the scope of our task.

The persecution which was, during several years, sys-

tematically carried on against Dr. Rush, originated from medical controversies, on the nature and treatment of the yellow fever. Its motives were personal towards him as an object of envy, perhaps of resentment, for asperities or irritations, frequently unavoidable in the defence of opinions, which are reciprocally supported or opposed for the public good. As one of the remaining revolutionary chiefs, and supporters of American independence, Rush could not fail to excite still the rancour or aggressions of its avowed enemies. The means of this persecution were scurrilous and slanderous libels, daily offered to the public, by one of the most virulent writers of the present age, against his medical opinions and professional acts. The pretexts of these iniquitous aggressions were alleged facts of mal-practice, and insinuations of an actual decay of his mind, possibly led into error by an enthusiasm fraught with mental derangement. The principal actors, who produced so much agitation, were, besides the editor styling himself *Peter Porcupine*, a medical and literary character, an eccentric traveller, a man of gloomy dispositions, and accessible to personal envy, at last a departed visitor of the United States. The persecution against Dr. Rush lasted, with more or less severity, until the laws of his country could inflict an exemplary punishment on the slanderer of his good fame; until a returned sense of justice and respect, on the part of his fellow citizens, replaced him in that eminent rank, where a long and useful life had placed him before; and where the chief magistrate of the nation conferred upon him new honours and rewards. While his feelings and just pride were the only objects of the blows and cruel wounds aimed at him, we have witnessed his heroic fortitude, and manly integrity, disdaining any act of revenge. But his peace of mind gave way to the raging storm, when the dignified comforts of his family establishment became embittered by his own sufferings. He would then have determined to withdraw to New-York, a theatre equally favourable to his professional and literary pursuits.

Dr. Rush, who in the worst time of his probation had seen himself surrounded by a respectable number of distinguished physicians, associated with him in an incorporated body, known by the name of the Academy of Medi-



cine, received another honourable and generous testimony of respect from several of the members of the Faculty of Physic in Columbia College, and of sentiments that were paramount to the liberality of their eminence and profession.—Philadelphia, however, did not lose the brightest ornament of her celebrated university, in which Dr. Ramsay calculates that Professor Rush had tutored 2500 students of medicine. This number will not appear exaggerated, when we recollect, that of late years, more than 400 medical students appertained in each season to his class.

These remarks, it is hoped, will not appear superfluous or irrelevant to the subject presented to our readers. These pages had been so often opened to the interesting and instructive communications of that celebrated character, that if, by one or many facts, we could add some testimony of our respect for his memory, we have thought it a duty incumbent upon us so to do, without interfering with the task of his venerable panegyrist of South-Carolina, which we have endeavoured to bring to the notice of all our medical readers.

To the writer, and one of the editors, Dr. Rush addressed the following words: (July 8, 1811,) "The recollection of your kindness and sympathy with me, at a time when, to use the words of a worthy clergyman now in Burlington, 'the mouth of hell was opened against me;' and when, to use the more affecting language of a clergyman in New-England, I underwent—a medical crucifixion, will always be grateful to me; receive, at this late day, my thanks for them." The thanks thus liberally bestowed, would be less deserved, had not that SYMPATHY survived his ever to be lamented death!

## OBSERVATIONS on the Travels of HENNEPIN, the Franciscan Friar.

**F** LOUIS HENNEPIN published a book, in the year 1698, on "the new Discovery of a vast Country in America, extending above four thousand miles, between New-France and New-Mexico," &c. He styled himself a missionary recollet, and apostolic notary; and seems to have been a franciscan friar of Louvain. He set out upon his American travels, in 1674, and in 1680, penetrated, by the way of the great lakes, from the river St. Lawrence to the Mississippi, a word which he uniformly spells *Meschasipi*. After this exploit, some quarrels arose between him and other adventurers of the same class, and particularly father Hyacinth Le Fevre, whereupon information was lodged against him before the government, that he was a subject of the king of Spain, and Hennepin was obliged to quit France.

Such treatment, after his return from so many labours and perils in savage countries, made him outrageously angry. He retired to Holland, and was there patronized by the English. William the third was then king of England, and to that prince he dedicates his book. He makes mention, in the most respectful terms, of Mr. Blathwait, the secretary of war to that sovereign. From this officer, through the hands of Mr. Hill, he received money, as he did various civilities from the duke of Ormond, and the earl of Athlone.

The original work was printed at Utrecht, in French; and may be considered as having been encouraged by the English, for the purpose of making the most advantageous use of an ill-treated and discontented French priest. With such previous information, and knowledge of the transactions, ought Hennepin's account of his discoveries to be read. He informs us, that the Spaniards were the first who discovered Canada, at a time long antecedent to his undertaking. Not liking the country well enough to hold or settle it, they abandoned it, and called it *Il capo di Nada*, that is, *a Cape of Nothing*, or *Cape Nothing*. From these words, by a little corruption and abbreviation, has come

the word CANADA, now generally in use. But he has some wonderful exaggerations, such as the solemn declaration, that the water at Niagara falls down a precipice *six or seven hundred feet deep*; that the Indian women are so lusty and strong, that when their backs are loaded with two or three hundred weight, besides their children, they will, notwithstanding that burthen, run as swiftly as French soldiers with their arms; and that at the long fall, below the Thousand Islands, in the St. Lawrence, "the waters, for two leagues, spirt up two yards high, and appear like huge snow-balls, hail, and rain, with dreadful thunder, and a noise like hissing and howling of fierce beasts: and I do certainly believe, that if a man continued there a considerable time, he would become deaf without any hope of cure."

He says, Ontario is derived from the Iroquois word *Skonodario*, which means, "a very pretty lake." Illinois comes from *Illini*, which, in the language of the natives, signifies, "a perfect and accomplished man," or a man of full age, "in the vigour of his strength." The *falls of Saint Anthony* were so called by him, in honour of the holy man of Padua, whom he and his associates had taken for the protector of their enterprizes.

The work contains much curious information about the regions explored, and the aboriginal tribes visited by this adventurer and his associates; and he claims the merit of having been the first European who descended the Mes-chasipi river, from Illinois, even before the voyage of La Salle; and the account of La Salle's unsuccessful attempt to found a colony at Fort Louis, in the Bay of St. Bernard, in the Gulf of Mexico, and of his sufferings and barbarous death, has the appearance of being an authentic narrative.



*Medical & Surgical Correspondence.*

## CASE I.

*ANTHRAX, successfully treated. By Thomas D. Mitchell,  
M. D. of Philadelphia.*

*June 7, 1813.*

**A**BOUT the middle of May, I was called to visit a gentleman, who complained of a large hile; he had been affected, about three weeks previous to this visit, with a complaint in the breast, which disappeared by the application of a blister. The patient imagined that the tumour, of which he complained, arose from, or was produced by the action of the blister. Of this, however, there was not the smallest degree of probability.

On examination, I found a very large purple tumour, situated over the spine, on a range with a line drawn from the ridge of one os ilium, to the ridge of the other. It was, of course, much lower down than I had ever observed before. The pain of the tumour was very distressing, and prevented the patient from sleeping for two nights. He had obtained a person to apply leeches to the tumour, previous to my visit, and he thought the application was of some advantage.

In addition to the tumour, which I considered to be a case of anthrax, an occasional swelling was observed, commencing at the superior spinous process of the left os ilium, and passing across to the centre of the abdomen, in a horizontal direction. This tumefaction produced much uneasiness in the mind of the patient, not from its *painful* sensations, for it communicated *very little* pain; but from the apprehensions excited as to its nature and possible consequences.

Having never before observed any such concomitant circumstance in the cases of anthrax I had seen, I was induced to make several inquiries, relative to internal dis-

ease, irregularity in the urinal secretion, and other circumstances of this nature; but all the information I received, did not throw the least degree of light on the singularity of the case. I therefore contented myself with believing, that the tumefaction was merely *sympathetic*, and not likely to be productive of any bad consequences. I then directed my attention to the tumour principally, and prescribed the application of a blister over the painful tumefaction, and that also which I deemed to be sympathetic; laudanum was likewise directed to be taken, for the purpose of mitigating pain and procuring sleep. The blister, as I have frequently observed in similar cases, did not excite any vesication on the anthrax itself, although its action on the adjoining tumefaction, was such as to discuss it completely. The blister was re-applied, and on the next day I found that it had produced some vesication; and at this time there was a considerable opening in the tumour. The pain continued to be distressing, and rendered the administration of an anodyne necessary; the patient did not, however, lose as much strength as is usual in such cases.

I now directed the whole vesicated surface to be dressed with *ung. resin. flav.* spread on linen; and over this, a bread and milk poultice, sufficiently large to cover the tumour. This plan was continued several days, during which time, the tumefaction which had been discussed, occasionally returned. In four or five days, the surface of the tumour was filled with small openings, resembling honey-comb. This is not unusual in such cases; and they are serviceable in furnishing an outlet to the pus. Powdered flaxseed was now combined with the bread and milk, in the form of poultice, and this application was kept on till the cure was effected. On the ninth or tenth day, a complete separation of the dead portion, in the centre of the tumour, took place, and healthy granulations began to fill up the cavity. A dressing of simple cerate was substituted for the *ung. basilic.* and the poultice applied as usual. In about two weeks, the granulations had entirely filled the cavity, and the patient, by good living, was restored to health. The occasional tumefaction had not appeared for several days, and no uneasiness remained in the place of its usual situation.

The cure, in this case, might have been facilitated, per-

haps, by a mode of practice, which some physicians in Philadelphia employ, viz. by making a number of incisions; but this, in my opinion, is somewhat hazardous, and at all events, would not have been acceded to by my patient. I proposed to him the application of caustic com. as being more speedy in its operation than a blister, but he rejected it on account of the pain accompanying its action, of which I felt it my duty to apprise him. This mode, however, is certainly a good one, and has been used, I think, by Dr. Physick with success. I have never seen it tried. It is an old remedy, and is spoken of, in high terms, in the *Bibliothèque Physico-Economique*, printed in the year 1784.

The treatment by blistering, however, is always successful, so far as I have seen, and attended with much less pain than the modes of incision and burning with caustic.

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## CASE II.

SPONTANEOUS MORTIFICATION. *By Samuel Akerly,*  
*Hospital Surgeon U. S. A.*

PATRICK NUGENT, aged 54, a private soldier in the service of the United States, was received into the Military Hospital in New-York, under my care, on the 12th of May, 1813, and was discharged, cured, on the 10th of July following.

This was a case of spontaneous mortification. The origin of the disease was attributed to cold and intemperate weather, while the soldier was on guard at Sandy-Hook, during a stormy night. The first effect of the exposure, was a swelling of the scrotum, which increased rapidly, and prostrated the patient. He was ordered to the General Hospital, where he arrived on the 12th of May, being transported by water more than twenty miles.

When he arrived, the scrotum was as large as the two fists, and all the left side of it was in a state of gangrene. The smell arising from it was so offensive, that few could approach him. His pulse was small and weak, and he was himself very feeble, and without appetite.



A common poultice, with yeast, was applied to the testicles, and renewed several times during the day. Wine was administered freely, and a drachm of Peruvian bark four times a day.

With this treatment, in a few days the smell began to be less offensive, and the mortified parts to separate; which continued till the left testicle was laid entirely bare; and, by the 22d of the month, it was reduced to the state of a simple ulcer, healing by granulation. It was then dressed with the unguentum basilicum flavum, which was continued till the ulcer was healed, when he was dismissed from the hospital fit for duty.

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### CASE III.

*PNEUMONIA. By the same.*

THE subject of this singular case remains in the Military Hospital at this time, (Nov. 1, 1813,) cured of the disease for which he was received, but thereby deprived of the use of the right arm.

Elijah Laton, aged 41, a recruit of the 5th regiment of United States infantry, was seized with a violent pneumonia, at a recruiting rendezvous in New-York, some time in April, 1813. He was sent to the General Hospital on the 21st of that month, much reduced in flesh and strength, and only able to lie on his back. The violence of his disease had abated, but his pain and distress had concentrated in a large abscess about the right shoulder. This collection of matter had probably induced a crisis in the disease, before his reception in the hospital. It occupied a large portion of the pectoral muscle, extended down the arm, and spread around the joint, and all over the scapula.

It was opened on the breast, and discharged a pint of matter. A poultice was applied to promote the discharge, but without effect, the opening healing up in consequence of the position on the back. Two days after it was opened on the most prominent part of the scapula, and this opening was afterwards extended, at which times a quart of matter was discharged. The position of the body being

now favourable, the discharge was constant and copious for a week, and then entirely ceased. In the mean time, he gained strength, though his cough was frequent, and the expectoration as purulent as the discharge from the abscess. His cough ceased in a great measure with the cessation of discharge from the abscess. During the interval of a week, he was quite comfortable and improving, but at the end of that time, he was seized with a violent paroxysm of coughing, and raised, in a few minutes, a pint of matter from the lungs, by the rupture of a vomica there. From this time the discharge from the opening on the scapula was renewed as copious as ever, and the cough continued with a plentiful and free expectoration. These, however, gradually ceased in the course of three weeks, and the patient recovered.

In this case there was no doubt a communication between the abscess on the shoulder, and the vomica in the posterior part of the right lung. The opening was probably between the third and fourth ribs, and beneath the scapula. The erosion of parts about the shoulder-joint, appears to have been mostly muscular, as ankylosis has not taken place. The inability which has resulted, deprives him of the free use of the arm, but particularly in raising it upwards and outwards, the offices assigned to the deltoid and coraco-brachialis muscles.

The treatment of this case was altogether stimulant. For some weeks after his reception in the hospital, he was in the daily use of wine or spirits, and the Peruvian bark; also an expectorant mixture. After the rupture of the vomica, his appetite returned, and he asked for pork, which was given him. The patient, in this case, was of a stout athletic frame of body, a farmer by profession, and of an excellent constitution; this, however, has received a severe shock besides his other inability.

CASE IV.

*HERNIA of the BLADDER, formed and guarded against during PREGNANCY.*

(Journal de Medicine de Paris, Dec. 1812.)

MR. AUSSANDON, D. M. communicates the following instructive fact to the Medical Society of Emulation.

He was called, at midnight, to attend a young woman in labour; and found a dilated orifice of the uterus, about an inch in diameter, with a good presentation of the head. The pains had been pressing at short intervals; however, they became more distant, until towards morning, when they grew more intense and frequent, and when the watery pouch protruded about an inch.

Mr. A. patiently waited for more decided progress, during two hours, observing that the pains were extreme, still the pouch was the same as before, and did not burst, as he momentarily expected it would. He therefore seized it with the ends of his fingers: it was of a thicker and stronger texture than usual; it had, however, the characteristic insensibility and horny colour of the amnios.

Having not yet conceived the smallest doubt concerning its nature, he nevertheless thought prudent to isolate it, by insinuating the index around it, above and below it, and from the center to all the circumference; by which, he discovered that this pretended watery pouch originated from the upper lateral right part of the vagina; that it was a hernia of the bladder, affected by the contractions of the abdominal muscles upon it; that the vagina was not ruptured, but distended, so as to give an external envelope to the hernia.

Mr. Aussandon, struck with the novelty of the case, but still more aware of its fatal consequences, where so rare an occurrence might obviously be misjudged, desired the attendance of one Dr. Gardien. They both concurred in the immediate expediency of introducing the catheter, while a pressure could be effected, by the fingers, upon the vaginal tumour. The bladder was effectually emptied. This relief somewhat accelerated the pains, during which, the compression was exercised until the descending head



formed a cushion against the hernia, and then the true watery pouch burst open. In so singular a case, both gentlemen, aware of the severity of the pains, and of the debility already induced, thought proper to terminate the parturition by the forceps.

This hernia occasionally appears, and requires a kind of pessary, made of sponge, &c. With the same precaution, another parturition has since taken place, which proved natural and successful.

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## MORBID EXAMINATIONS.

### PNEUMONIA.

OLIVER BANKER, aged 32, a private soldier in the volunteer service of the United States, was received into the General Hospital, on the 20th of April, 1813, and died on the 26th of June following.

This soldier was an intemperate man, and drank to intoxication almost daily. He had laboured under pneumonia, which had its commencement in March preceding. When received into the hospital, his disease had run into consumption, and during his continuance there, it received no check by any remedy administered. No plan of treatment could be relied on, from his repeated inebriety, notwithstanding his disease, which he was informed would kill him.

He had a constant pain in the side, attended with a cough, and expectoration of purulent matter, which was copiously discharged. While confined to the hospital, an abscess, pointed on the right side between the ribs, disappeared, and again became prominent. It was attended with a great deal of inflammation on the surface, and was excessively sore to the touch. About two weeks before he died, it broke between the sixth and seventh ribs, and discharged abundantly. The following morbid appearances were observed on

## EXAMINATION.

The right lung was almost destroyed, and the remaining part adhered to the ribs and pericardium. The ribs had become carious for two or three inches around the opening of the abscess between the sixth and seventh ribs.

The left lung was not so much diseased, but discoloured with a diffusive blackness, and it adhered to the surrounding parts. A small portion of the superior anterior part was of its natural appearance and feel, and seemed the only part that had for some time been capable of supporting respiration, all the other cells and cavities being filled with pus.

The heart adhered closely, though not firmly, to the pericardium, without any intervening fluid.

The liver was of a light yellow colour, and so rotten as not to bear its own weight.

In the pancreas, there were two black spots which contained dark grumous blood.

The spleen was of a moderate size, and had the consistence and colour of a rotten pear, very easily yielding to the pressure of the fingers.

There were no other diseased appearances.

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ENTERITIS.

ELIAS DOTY, aged —, a soldier in the volunteer service of the United States, was received into the General Hospital on the — of October, 1813, and died the next morning. He was examined three hours after death.

His disease was stated, on the order to receive him, to be typhus fever. Upon examination of the pulse, it was found to be small and feeble, with no febrile heat of the skin; tongue perfectly clean; eyes sunk in the head, large and glaring; countenance sallow. He complained of no pain, said he was feeble, and rather costive in his bowels.

## EXAMINATION.

The whole length of the intestines were in a high state of inflammation. The abdomen contained a large quantity of pus, which came from no abscess, but from the extensive inflammation existing there. The inferior part of the omentum was in a state of gangrene, (black as soot.) The superior surface of the liver was covered with a layer of congelated lymph. The lungs were of their natural appearance and feel, but adhered to the pleura, in most places slightly, but strongest on the left side posteriorly. The heart was in its natural state, with its usual quantity of pellucid serum in the pericardium. There were no enlarged mesenteric glands. The examination of this subject was very offensive.

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*Note.* The General Military Hospital of the third military district, established in New-York, under the direction of our colleague, Dr. Samuel Akerly, Hospital Surgeon U. S. A. has afforded us, and, we believe, will continue to afford singular cases of army practice, which shall be regularly laid before our readers, particularly morbid dissections. Of this opportunity we shall not be negligent, and we can assure our readers of already having an abundant stock on hand. From this source we may also find it convenient to detail some cases of ordinary practice, for the benefit of the junior class of army surgeons.

EDITORS.



## INAUGURAL DISSERTATIONS.

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### *On Eupatorium Perfoliatum.*

WE notice with satisfaction this inaugural exercise of ANDREW ANDERSON, Esq. for a doctor's degree, at the medical commencement of the College of Physicians in New-York, on the 4th of May, 1813. He has chosen *Bone-set*, or *Thorough-wort*, for the thesis on which he should undergo his public examination. And he has treated it in a manner well worthy of the occasion, and at the same time indicative of his industry and research.

The author first gives the botanical description and character of the plant; he then recites twenty-six experiments, on the flowers, leaves, and roots, for the purpose of detecting their virtues; next he offers his observations on the analysis made; and, lastly, gives the results of his observation and inquiry, as to the value of this species of eupatorium, as an article of the materia medica.

Mr. A. concludes that the virtue resides chiefly in the leaves. The flowers possess an inferior degree of efficacy; and the roots least of all. And it is obtained very advantageously by a simple decoction in water. This he believes to be remedial by a marked similarity with the properties of those excellent articles, Peruvian bark and chamomile flowers. And, for practical purposes, he recommends various preparations; especially the decoction of the flowers and leaves—infusions of the same parts—the pulverized leaves—and a spirituous tincture of the flowers and leaves. He recommends, very highly, this last preparation, as being the most pleasant, convenient, and powerful; because proof-spirits was ascertained to be the best menstruum. His experiments are really a handsome display of chemical investigation. Conceiving the eupatorium to act, according to circumstances, as an emetic, a diaphoretic, and a tonic, Mr. A. endeavours to evince its power to cure intermittent fevers, by narrating cases. He thinks it will be

found efficacious in remittents, in the yellow fever, and in the typhoid peripneumony; as well as in some cutaneous affections, epidemical catarrhs, and diseases of debility. On which, it may be remarked, that he manifests a highly commendable degree of observation and knowledge.

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*On Angina Pectoris.*

HENRY BOGART, A. B. at the same time with the preceding, submitted to the examination of the trustees of the College of Physicians, his inaugural essay upon the disease which has been named by different writers, *syncope anginosa*, *diaphragmatic gout*, and *asthma convulsivum*, *arthriticum* and *dolorificum*. We have perused this performance with much pleasure. He has looked into the medical history of this distressing malady further back than Heberden's memoir of it, in 1768; and quotes Hoffman, Morgagni, and Marchetti, as having recorded cases of angina pectoris some time before.

After these very commendable proofs of reading and discernment, Mr. B. describes the symptoms of the disease, its diagnosis and causes; he then presents an instructive chapter on the appearances disclosed by examinations after death; and, after delivering his prognosis, concludes with an opinion as to the preferable method of treating and curing this obscure and perplexing malady.

As far as this ingenious author can find a diagnosis, he thinks that it consists in a sharp constrictive pain across the chest, which supervenes, in general, upon muscular motion. He believes it to proceed from a plethora; more especially, when the blood has a disproportionate accumulation in the heart and larger vessels. And accordingly, towards the relief of persons labouring under this obstinate, distressing, and frequently fatal disorder, he advises depletion, by copious and repeated blood-letting; purging by jalap, calomel, and gamboge; and quieting by æther, ammoniac, and other diffusible stimuli: to which are added, a strict attention to diet, exercise, the passions, and whole subject of regimen.

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## INTELLIGENCE.

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### DISEASES of the City of New-York.

**C**HOLERA infantum was frequent during the last remarkably mild summer; dysentery followed in many cases, and proved fatal. This form of disease was not confined to the age of infancy; it affected also youths of ten and fifteen years of age. We observed cutaneous disorders among children, much connected with lymphatic obstructions of the glands, especially in the suburbs and neighbouring villages. A similar constitution often arises from variableness of temperature, frequency of rains, fogs, mists, and from occasional sultry heats, not so much caused by the rays of a scorching sun, as by the stillness of the atmosphere, charged with the vapours of the earth. It usually degenerates, in adults, into fevers of an intermitting type, or of adynamic characters. Not a few cases of this kind have prevailed, and they particularly deserve our notice. It is that fever, which of time immemorial was known in these states by the names of *long fever* and *nervous fever*. We should perhaps class it with the typhus mitior, were we not aware of possible errors, from the habit of comparing all that we see with all that has been *classically* defined before. We apprehend also, that this *long fever* materially differs from the typhus, in regard to the uncommon protraction of its period, and the long deceptive remission of the febrile symptoms, by which an apparent cure is frequently depended upon, and unfortunately mistaken afterwards, on account of a supposed relapse. We have seen repeated instances of it that terminated fatally. Until the long fever advances towards its last stage, the fifth or sixth week, it is difficult to ascertain what organic function is the most impaired; it then proves to be the abdominal, by tympanitis, dropsical effusions, and determinations on the kidneys, bladder, &c. and that the most



probable seat of the disease is in the biliary organs. That fever is of a quotidian type, of nocturnal exacerbation, attended with profuse sweats, and extreme wakefulness. The debility is so great, in general, that there is danger of increasing it to a degree of prostration, by simple and repeated cathartics, unless they are preceded by a methodical administration of nutritive regimen, and of cordials, which may produce a temporary energy. We do not feel warranted to assert any specific mode of treatment of the long fever; we wish only to observe, that the longer the period of an acute disease is protracted, the more obscure its resolution, and more erratic its critical alterations must be, which would otherwise be the means of regulating the treatment and the diet. It would therefore be a good rule to counteract from the beginning, the obvious effects of long suspended nutrition, and the impaired state of digestion, by depending much on the daily exhibition of food in some way or another.

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**BILLS OF MORTALITY, as observed and reported by Dr**  
**ISAAC BALL, M. D. Assistant of the Board of Health.**

	Defined diseases.	Undefined & Consumption.
From May 29, to July 3,	157	46
July 3, to July 31,	166	48
July 31, to Aug. 28,	289	61
Aug. 28, to Oct. 2,	239	37
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Total	851	192

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**CHEMICAL REPORT to the National Institute, 1812.**

It will afford great pleasure, and a just national pride to our readers, to find that Count Rumford, a native of the United States of America, continues to hold a distinguished rank among the first philosophers of the day. In the report of the Physical and Mathematical Class, he is represented to have, after twenty years labour, experimen-

tally defined what quantity of heat is developed in the combination of many substances, with a view to the most useful purposes. To come to that interesting result, it was necessary to institute an exact mode of measuring the heat, by a substance in nature, which could be made to pass from a fixed state to another equally fixed, by the combustion of a determined quantity of the substance to be experimented upon. This operation, however complicated, was easily effected from natural inferences, as it appears, and with a mathematical precision.

A prismatic and horizontal brass receiver, provided with two gullets, one to receive a thermometer, and the other water, is to contain a worm for the reception of all the gaseous products of combustion; it is of a flat form, better to transmit the heat to the surrounding fluid, and its circumvolution is three times repeated in the receiver.

Should it be objected, that when the receiver is heated above the temperature of the surrounding atmosphere, it gives out to it a portion of the heat, or that the quantum of the azote elicited by combustion, circulates through the worm with the other products, and another portion of that heat; Rumford removes the error by commencing his experiment at a determined degree of temperature below that of the surrounding air, and terminates it as soon as the water of the receiver has reached the same number of degrees of heat above the external temperature; thereby the surrounding air and the azote must give to the water precisely as much caloric as they will obstruct afterwards.

With that apparatus, Rumford has burnt many combustible substances, taking all necessary precaution never to leave any residuum, avoiding vapours or volatilization of the substance in operation; and each of them have converted melting ice into boiling water, in the thereto affixed proportion.

A pound of refined wax	94632	pounds of water
olive oil	90439	do.
oil of Cabra	93073	do.
sulphuric ether	80304	do.
naphte	73376	do.
tallow	83687	do.

It is remarkable that the component parts of those substances, as analyzed by Lavoisier, Cruickshank and others,

were they to be burnt separately, would nearly give the same results. It is impossible to enumerate in our confined limits, the merits of those experimental results. We will, however, mention a few.

The solid matter of charcoal is nearly the same in all sorts of wood. The ligneous substance in the oak is not the 4-10 of the whole; air is 1-4; the rest is all water. Dry common wood retains 1-4 of its weight of water; there is never less than 1-10 in the beams of most ancient buildings. All kinds of dry wood produce 42,6 or 43,0 of charcoal. Although Messrs. Thenard and Guy-Lussac have found a result of 52,0 or 53,0, he proves the difference to be a peculiar combustible substance adhering to charcoal, a vegetable meat-like adhering to it, as human flesh to the bones. The lime-tree is the wood that develops more heat, and the oak furnishes the smallest quantity. In charring wood 42,0 parts of heat are lost. All the charcoal of a given quantity of wood, gives no more heat than a third part burnt in its natural state.

Other interesting experiments and chemical laws, in the formation of vapours, are stated by Rumford, for which we must refer the reader to the author himself, omitting not, however, to notice that the heat necessary to hydrogen and oxygen, in their combination to form water, is equal to that of red hot iron in full day-light; and the heat given out by an aqueous vapour condensing itself, is so amazing as 1040 degrees.

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EXPERIMENTS of B. C. BRODIE, Esq. proving the Influence  
of the BRAIN on the Generation of ANIMAL HEAT.

(Philosophical Transactions.)

MR. BRODIE, having ascertained that when the functions of the brain are suspended, the power of generating animal heat is also suspended, although, by means of artificial respiration, the mechanical phenomena of circulation are maintained, proceeded to inquire, whether, in these circumstances, the chemical phenomena of respiration continued unimpaired; whether, in a given time, an equal quantity



of oxygen was consumed, and an equal quantity of carbonic acid formed.

From three experiments on rabbits, it appears that they consume about their own bulk of oxygen gas in an hour.

In four other experiments with rabbits, in which the functions of the brain were suspended or destroyed, by dividing the spinal marrow, or inoculating them with woorara poison, the consumption of oxygen, and the formation of carbonic acid, by artificial respiration, were equally great, and yet the heat of the animals fell rather more rapidly than that of others in which the functions of the brain were also destroyed, but allowed to lie dead with artificial respiration.

“ From the precautions with which these experiments were made, I am induced to hope that there can be no material error in their results. They appear to warrant the conclusion, that in an animal in which the brain has ceased to exercise its functions, although respiration continues to be performed, and the circulation of the blood is kept up to the natural standard, although the usual changes in the sensible qualities of the blood take place in the two capillary systems, and the same quantity of carbonic acid is formed as under ordinary circumstances, no heat is generated, and (in consequence of the cold air thrown into the lungs) the animal cools more rapidly than one which is actually dead.

“ It is a circumstance deserving of notice, that so large a quantity of air should be consumed by the blood passing through the lungs, when the functions of the brain, and those of the organs dependent on it are suspended. Perhaps it is not unreasonable to suppose, that by pursuing this line of investigation, we may be enabled to arrive at some more precise knowledge respecting the nature of respiration, and the purposes which it answers in the animal economy. It would, however, be foreign to the plan of the present communication to enter into any speculations on this subject, and I shall therefore only remark, that the influence of the nervous system does not appear to be necessary to the production of the chemical changes, which the blood undergoes in consequence of exposure to the air in the lungs.

“ The facts now, as well as those formerly adduced, go far towards proving that the temperature of warm-blooded

animals is considerably under the influence of the nervous system; but what is the nature of the connection between them? whether is the brain directly or indirectly necessary to the production of heat? these are questions to which no answers can be given except such as are purely hypothetical. At present we must be content with the knowledge of the insulated fact: future observations may, perhaps, enable us to refer it to some more general principle.

"We have evidence that, when the brain ceases to exercise its functions, although those of the heart and lungs continue to be performed, the animal loses the power of generating heat. It would, however, be absurd to argue from this fact, that the chemical changes of the blood in the lungs are in no way necessary to the production of heat, since we know of no instance in which it continues to take place after respiration had ceased.

"It must be owned that this part of physiology still presents an ample field for investigation.

"Of opinions sanctioned by the names of Black, Laplace, Lavoisier, and Crawford, it is proper to speak with caution and respect; but, without trespassing on these feelings, I may be allowed to say that it does not appear to me that any of the theories hitherto proposed, afford a very satisfactory explanation of the source of animal heat.

"Where so many and such various chemical processes are going on, as in the living body, are we justified in selecting any one of these for the purpose of explaining the production of animal heat?

"More might be said on this subject; but I feel anxious to avoid, as much as possible, controversial discussion. It is my wish not to advance opinions, but simply to state some facts which I have met with in the course of my physiological investigations. These facts, I am willing to hope, possess some value; and they may perhaps lead to the developement of other facts of much greater importance. Physiology is yet in its infant state. It embraces a great number and variety of phenomena, and of these it is very difficult to obtain an accurate and satisfactory knowledge; but it is not unreasonable to expect, that, by the successive labours of individuals, and the faithful register of their observations, it may at last be enabled to assume the form of a more perfect science."

SULPHURIC ACID *usefully applied on* GANGRENOUS  
WOUNDS.

MR. B. DESPAULX, Anc. Surg. of the Practical School of Paris, communicates to the Medical Society of Emulation, (Journal de Medicine, Dec. 1812,) his successful treatment of a complicated fracture of the leg, with gangrene and necrosis in the articulation of the foot, and which terminated by the union of the astragalus with the tibia. The subject was a robust man of 48 years. After considerable symptoms of mortification, he had occasion to lay open putrid abscesses, which extended below and above both ankle bones. The astragalus was denuded by the rupture of the ligaments; he took off much of the cellular tissue already mortified; he afterwards applied the sulphuric acid, with a hair pencil, to the ends of the ligaments and tendons, which, by their colour, appeared to be mortified, and filled up the wound with lint soaked in the essence of turpentine. He adds, that many times, and during a long practice, he has been convinced of the efficacy of the sulphuric acid; and that to it he owes very remarkable cures, when various other much approved remedies had failed.

GANGRENOUS VIRUS *inoculated for the Cure of* CANCER.

IN a celebrated modern work, "*Nouvelle Doctrine Chirurgicale*," or, a Complete Treatise of Pathology, Therapeutics, and Operations, &c. vol. iv. by J. B. F. Leveillé, M. D. of the Faculty of Paris, we find one of the most extraordinary inquiries on the nature and proximate cause of the cancer. The author does not admit of the existence of a specific virus in this disease, although there may be a *cancerous diathesis*. He sets forth that any kind of lesion, accidental or spontaneous, may take place for want of sufficient vitality of the cutaneous, cellular, and glandular system. This is stationary, because subjected to more or less energy of vital force; it degenerates at last from



age, or other constitutional circumstance; therefore this organic lesion is kept up by an insufficient *dose of vitality*, which cannot restore the first and original healthy condition, yet is sufficient to resist a total destruction or mortification of the part: if this could take place, the disease would be entirely removed. The cancerous diathesis is that impure *atmosphere* in the cellular tissue, which arises from the cancerous condition slowly propagating throughout, similar and *deadly* effects. Mr. Leveillé discusses, therefore, with great sagacity, whether in this case it would not be proper to inoculate gangrene. He relates five facts in support of the affirmative; one of them only he selects as a proof in point of the operative process; yet he is well aware of all the doubts and fears, that a similar practice cannot fail to suggest; he therefore invokes time and further observation to establish a remedy which would be much preferable to amputation.

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*Another AMERICAN REMEDY for HYDROPHOBIA.*

WE have received from Conkaly of Yucatan, in New-Spain, a manuscript letter in the original Spanish, written by Francis Lorenzo Antonio Becarie, an aged and experienced physician there, to Don Benjamin Manuel Booth, of Merida, on the efficacy of the seeds called *Sapo*, or *Con-treculibri*, against the venomous bites of serpents and dogs. Dr. B. states, that numerous cures have been effected by them of the bites of vipers and of hydrophobia. The seeds are preferred as a remedy; and if they cannot be procured the leaves of the plant will answer. They must be finely triturated, and steeped in wine, to prepare them for use.

From those two preparations, the writer declares the same happy results have taken place; both in the early stages, after a bite, and even when madness had come on. After repeated observations, made by himself and other curious persons of probity and credit, there has been only one failure known of their success; and that was a case where the patient, a month after having been cured, felt himself dull and heavy, whereupon he was bled, and the

prescription repeated, after which he became well and continued so.

Through the polite attention of Dr. William Frost, at Havanna, a small box of these seeds has reached us. But we are left uninformed of its botanical name, character, and history. Care, however, has been taken to distribute specimens to several of our friends that were judged to be the most likely to grow them. Should the seeds vegetate, we may hope to learn more particulars about a plant of so much importance.

Dr. Frost's letter to Dr. Mitchill, dated in Cuba, Oct 9, 1813, contains these words: "I have no comment to make on the virtues of this medicine, not having had, as yet, any opportunities of trying the effects of the seeds in any form. But I am strongly induced to believe, from their similarity of taste and smell to musk, that their medicinal properties must be similar to this last mentioned drug. The fact stated, that the Sapo is a certain cure for hydrophobic madness, will no doubt excite in you a stronger desire to have some of the seeds; and I accordingly forward you, by Capt. Reynolds, half the quantity in my possession. If you should find this plant to possess the virtues ascribed to it by Dr. Becarie, it will be an invaluable acquisition to medicine. *Sapo*-seed means *Toad*-seed; so called, in all probability, from its being eaten by toads when bitten by insects and serpents."

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*Questions answered on the average Nutriment of different Provisions.*

(Edinburgh Medical and Surgical Journal, January, 1818.)

1. A POUND of wheaten bread is equal to half a pound of beef, mutton, veal. Pork is more nutritive than either of the three last.
2. One pound of meat is fully equal to two pounds of bread.
3. Two pounds of fresh milk are not equal to one pound of bread.

4. Good cheese is equal to butcher-meat, weight for weight.

5. Good butter is not twice as nutritive as meat.

6. One pound of good ale is not equal to half a pound of bread.

7. Wheat is twice as nutritive in bread as barley is.

8. One pound of wheaten bread is equal to one pound and a half of oaten bread.

9. Pease or bean meal is only half as nutritive as wheat, if made into bread; pease or bean meal, if made into soup, is more nutritious than if made into bread.

10. Three and a half pounds of potatoes are equal to one pound of wheaten bread.

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#### REMARKS ON GUN-SHOT WOUNDS.

DURING the year 1813, a dissertation was defended before the Medical Faculty of Paris, on wounds of the limbs by fire-arms. The author, Eugene Fenech, a surgeon-major, relates the observations made by himself during his attendance on the French army in Spain.

He relates twenty-nine cases, which he disposes under two heads: 1st, those wounds which were cured without amputation; 2nd, those which were fatal, although the wounded might *possibly* have been saved (as he seems to think) by aid of the operation. From a review of the whole, he draws the following practical conclusions:

1. Fractures of the arm are perhaps the least serious of all the accidents which happen to the limbs.

2. Fractures of the thigh, accompanying gun-shot wounds, though more serious than those of the arm, do not absolutely and necessarily require amputation.

3. Fractures of the leg, considered in regard to the danger which attends them, appear to hold a middle station between those of the arm and thigh.

4. Fractures of the joint connecting the arm with the shoulder, are never of a very dangerous nature.

5. Fractures of the elbow, when the injury really affects the articulation, require amputation more frequently than



they can be cured without it; although the removal of the joint may supercede the necessity of the extreme remedy.

6. Fractures of the hip-joint are almost always fatal to the patient.

7. Those of the knee-joint generally require amputation.

8. Those of the ankle-joint demand the operation, only under particular circumstances.

9. Arterious hemorrhages are more frequent and formidable from gun-shot wounds than has been heretofore supposed.

10. The performance of amputation on the field of battle, is not so fatal as is commonly believed; and is to be reckoned among the most valuable means of securing length of days to the wounded.

*Journal de Medicine for March, 1813.*

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TRANSFORMATION OF STARCH INTO SUGAR.

THE interesting experiments of M. Kirchoff, of St. Petersburg, proving that starch may be converted into sugar by the action of dilute sulphuric acid, have been eagerly repeated by the most distinguished chemical philosophers of Europe. This singular conversion is produced by boiling 100 parts of starch with 400 of water, and from two to eight parts of strong sulphuric acid, in an unglazed earthen vessel, for a period of from 24 to 36 hours, constantly stirring the mixture during the first hour, (after which it becomes more fluid) and carefully maintaining the original quantity of water, by adding more as it is wasted.

Upon growing cold, the mixture must be neutralized with chalk, and clarified by charcoal; filtrated through flannel, and evaporated to the consistence of oil. It must then be again cooled, in order to remove its sulphate of lime; and the clear liquor, if further gently evaporated, will yield about 100 parts of gummy syrup, of the specific gravity of 1.295, easily susceptible of vinous fermentation, and when separated from the gum, which in general forms no less than a fifth part of it, capable of being crystallized, and applied to all the common purposes of native sugar. With the rationale of this very important transmutation,

we are not yet acquainted. It is plain, however, that the acid still exists undecomposed, and there is reason to believe that the quantity of water is increased. The probability therefore is, that the agency of the acid is exerted in abstracting from the starch a part of its hydrogen and oxygen, in the proportions requisite to form the excess of water, and in thus enabling its remaining principles to be in such a way arranged as to induce the extraordinary change effected.

London Monthly Magazine.

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#### HAÜY on AMERICAN MINERALOGY.

THIS distinguished mineralogist has published to the scientific men of France, a Memoir on a curious fossil found in the vicinity of New-York.

It appears to be a species of feldspath. It possesses a crystalline form, consisting of an eight-sided prism, terminated by five-faced summits. The crystals are of a greyish white, and a slight transparency. The largest was seventeen lines long, eleven broad, and four thick. He calls them *Crystals of Pyroxène*. Had he judged from external appearance only, he might have been induced to assign it a place among the *amphiboles*, especially the whitish variety of them, called *tremolites*. But pursuing his ordinary mode of investigating subjects of this kind, by principles strictly geometrical, he has satisfied himself that the present specimens ought not to be so classed. On attending to them according to the rules of crystallography, he has decided that they belong to the feldspaths. He has, accordingly, given them a rank under the genus of pyroxène; and has discriminated them with the specific title of *epimeride*. He enters into a curious and elaborate discussion of the question; and concludes that *alalite* and *mussite* ought now to be associated with this same family. He has illustrated his argument by a plate, containing four beautiful figures.

Having mentioned this dissertation, and its ingenious author, we cannot forbear to translate a paragraph or two, wherein he bears honourable testimony in favour of America, and certain of its citizens.

"The soil of the United States has become, within a few years, the subject of mineralogical research, in which several gentlemen, eminent for their scientific merit, and mostly natives of the country, have vied with each other. The benefits derived already from their exertions, are a solid assurance of those we may expect from the continuance of their exertions in a field where they have laboured with so much zeal and success.

"The result of their inquiries are partly distributed through the several periodical collections of France; but contained more particularly in an excellent periodical work published at New-York, entitled, *The American Mineralogical Journal*, conducted by Archibald Bruce. The leading object of the authors, is to embody all the information afforded by the rich country in which they dwell, relative to mineralogy, geology, and mining.

"I have exhibited, in the eighteenth volume of the *Annals of the Museum*, the discovery which has been made in Connecticut, of a new variety of *cymophane*, which is the more interesting, as it has for the first time shown that substance in its native spot. Mr. Bruce, the celebrated professor of mineralogy at New-York, to whom I am indebted for the samples which have furnished the description I have given of this variety, has just added to my former obligations, a new package, in which, among several interesting productions gathered in the neighbourhood of that city, was found the one treated of in this essay. In seizing this opportunity to express to him my gratitude, I cannot forbear to offer the same tribute to Messrs. Barton, Peale, Godon, Maclure, and Mitchill, for the rarities with which they have enriched my collection; and to Mr. Warden, the American consul, who, in the trouble he has taken to transmit to me those several donations, has shown an earnestness commensurate to the enlightened taste which he is known to possess for the natural sciences."

(p. 1, 2.)



*CANTEENS of ZINC discountenanced in the Armies of France.*

HERETOFORE, the French soldiers had been supplied with canteens made of whitened iron, (*fer blanc*), that is, of plate-iron tinned over. When these canteens were worn out, they were thrown away, and were totally lost; the old materials not being good for any purpose of re-manufacture.

For the purpose of saving expense in the armies, it was conceived that canteens might be made of plated-zinc. A sample was prepared. It promised to combine strength and durability with cheapness; and, moreover, to be worth half-price, as good metal, after becoming leaky, or otherwise unfit for service.

But, before the design was carried into execution, the minister of war caused various experiments to be made upon a canteen of zinc. To remove all doubts as to the operation of zinc upon the health of the soldiers, the subject finally was referred for examination, to Messrs. *Chaus-sier, Luzac, Thenard, and Chusel*. These able chemists have reported a solemn opinion against the employment of zinc for canteens in armies; and have recommended the substitution of varnished leather, or even little kegs of wood.

Their reasons for discouraging the use of zinc were these: 1. Zinc is readily and powerfully corroded by vinegar. 2. Plates of zinc, when soldered together, have too little solidity. The soldered places are weak, and apt to give way. Zinc indeed does not solder so well as tinned iron. 3. Common wine dissolved a portion of zinc. So did the vinegar of trade. Distilled vinegar had a similar operation. As had mixtures, in different proportions, of vinegar with water. These dissolutions were invariably accompanied by the extrication of hydrogenous gas. And the respective fluids, on being mixed with potash, hydro-sulphuret of ammoniac, and prussiate of potash, let fall copious precipitates, which were found to contain oxyds of zinc. Ordinary wine dissolved zinc, although the contact of external air was intercepted. Water itself, though pure and precluded from access of air, imparts oxygen to zinc, and turns it to an oxyd.

Malouin had thirty years ago proposed to the Academy of Sciences, the plating of zinc vessels internally with tin, for culinary purposes. And trials had been made upon them so prepared. But they were quickly abandoned on account of the ease with which acids attacked them. They communicated an acrid and disagreeable flavour to the meat, and were found to be quite unfit for cooking. They were also considered as unfavourable to health. Tin does not appear capable of coating zinc in such a manner as to guard it against the action of acids.

Hence it is concluded, that neither plated-zinc nor tinned zinc will answer the purpose of strong and healthy canteens for soldiers. *Journal de Medicine, March, 1813.*

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#### MANUSCRIPT LECTURES of WILLIAM HUNTER.

A COPY of the lectures of William Hunter, M. D. late of the city of London, on anatomy, surgery, and physiology, is extant, in manuscript, at New-London. It was executed by an attendant upon his lectures, in short-hand, and afterwards transcribed under that gentleman's inspection, in the most correct manner, as if prepared for the press. His name was Seybert. After his death, it fell into the hands of Dr. Thomas Mofatt, a Scotchman of education and eminence, who held an office in the customs before the revolution. Dr. M. considered the manuscript very important, and supposed it had never been published.

These lectures are written in the neatest manner, in four volumes quarto, and carry on the face of them every appearance of genuineness. This professional rarity is now the property of Dr. Thomas Coit, of New-London, who received it from his father, a distinguished physician there.

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#### REMARKS on the Preparations of VERDIGRIS.

IN consequence of some observations, introduced in our last number, on that composition, p. 421, we have received a letter from the United States patentee of verdigris, re-

sident in New-York, the principal part of which here follows:

"The plan or process which I have received a patent for, and which I practice, is not the one literally explained by Professor Coxe. Should further evidence be requisite, the parchment which I have received under the great seal of the United States, will substantiate this fact. I do assure you, Sir, that I have had the pleasure of being practically acquainted with that process these several years past, for which I am indebted to the valuable works of Chaptal, to which I refer you, page 388, second American edition; and that I have by me crystallized specimens, procured by filtration and concentration; some of which I enclose you. Although making many accurate trials of the same, to ascertain if it could be made sufficiently cheap for commerce, I have never been able to make it for less than three dollars per pound; while that which I have received a patent for, does not exceed fifty cents, and may be made for thirty cents per pound; and, as to quality and effects, it is best proved by the consumer, of which, I presume, the painter, the hatter, and the dyer are the principal, and of which I can refer you and the public to the following gentlemen of this city, who have given me their certificates of approbation."

[Here follows a list of twelve well known respectable hatters, painters, dyers, &c.]

"With many others, too numerous to detail here, and who are now using it in preference to the imported. In brief, I have made verdigris by vinous processes; and once in particular by corroding the copper with sour tar-water, which afforded me as handsome specimens as I have seen. But I am of opinion that tar-water could be more advantageously applied to the formation or making of white-lead. And, must request you to give this a place in the next number of the Medical Repository, which will confer a great favour on

"Sir, your most respectful

"Humble servant,

"STEPHEN DEMPSEY.

"Dr. FELIX PASCALIS.

"New-York, Oct. 16, 1813.

"P. S. I do myself the pleasure of presenting you



with a few specimens of green pigments, as you will perceive, folded up in blue paper; all of which have been produced from copper, and are the products of my own labour. I have no doubt but you will give them such notice as you may think they merit. I would accompany them with the particulars of the different processes, did it not hazard my interest so materially. However, it may not be amiss to remark, that they have no relation or connection with the arseniates of copper."

Of the above pigments or verditers, we cannot but admire their respective beauty, and wish the patentee the most ample success for his perseverance and industry.

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*A new Mode of making COFFEE, devised by Count  
RUMFORD.*

THE celebrated Count Rumford, than whom, perhaps, no gentleman has more usefully applied his scientific knowledge to the practical improvement of the various luxuries and comforts of our tables and habitations, has lately given us an essay on a new mode of making coffee, whereby we may prevent the dissipation of that essential aromatic oil, on which, every one must have observed, that the exquisite flavour of this enlivening beverage altogether depends. But, in order to attain effectually this desirable object, he says, that every family should themselves roast the coffee which they have occasion to consume, on account of the necessity of paying a greater attention to the management of this process than can be possibly bestowed on it when performed in the large way, in which it would necessarily be conducted by the public merchants. Coffee-beans may be conveniently roasted in a clean Florence flask, or any other similarly formed vessel, held by its neck over a clearly burning fire, until they assume a dark brown colour, and begin to exhale their peculiar fragrance, when they should be immediately removed; and, when cold, finely ground and put into an accurately close canister or bottle. The mouth of the flask, during the operation, is to be slightly stopped with a loose cork, and its contents, which never should at one time exceed half a pound, must be con-

tinually agitated, lest the completion of the process should take place sooner in one part than in another. It is evident, however, that attention must be also given to the manner of imparting the fine flavour of the coffee to its menstruum, the water, in as unimpaired a state as is possible; and, for this purpose, the count has recommended an improved vessel, for a particular description and delineation of the form of which, we beg leave to refer our readers to his essay itself. It is very similar to the double vessel now commonly employed, excepting, that it is so made as to be surrounded on all sides by boiling water or steam, contained in a third external vessel. By this ingenious contrivance, the escape of the volatile principle of the coffee is again effectually cut off; for, by thus enveloping the inner vessels in a medium of heat throughout, we completely prevent that intestine motion in the mixture of the water with the coffee which would otherwise ensue, from the ascension of its hotter particles, and the consequent falling down of those more cold, if the surface of this mixture were exposed to a medium of inferior temperature to itself. The Count has calculated that one pound of good Mocha coffee-beans, which, when properly roasted and ground, weigh only 14 ounces, will make, in this way, 14 pints, which will fill 56 large coffee-cups with the very best coffee that need be made. *Lon. Mon. Mag. Feb. 1813.*

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#### DURABILITY of Carbonized INDIAN CORN.

THE incorruptibility of charcoal has been long known. Its capability to pass, unaltered, from age to age, has been frequently noticed. But a fact so pointed, so striking, and so curious as the following, has not been often recorded. We insert the communication with pleasure, inasmuch as its historical value is scarcely inferior to its chemical. It is from the pen of the learned and reverend Timothy Alden, A. M.

*" New-York, August 6, 1813.*

*" Sir,*

*" There is a spot near the salt-marsh, on the farm which is in the possession of Robert Southgate, Esq. at a dis-*

tance of about a quarter of a mile from Dunston-landing, in Scarborough, where, in the year 1676, a house was burnt by the Indians. Lieut. Andrew Alger, who lived at Black-Point, was either in the house or nigh it, when the enemy advanced, and was wounded, so that he died soon after reaching the garrison. A considerable quantity of Indian corn had been stored in the house, which also underwent the ravages of conflagration. It is a matter of curiosity, that some of the corn is still to be found in its natural form. Even the effects of mice, or some other vermin, are visible. I have heretofore deposited, in several cabinets, a few kernels of this charred corn, some of which is still on hand, and which has been in a charcoal state for 137 years. I now do myself the pleasure to send you some for a place in your valuable cabinet of natural and artificial productions. I am, Sir, with high respect,

“ Yours,

“ TIMOTHY ALDEN.

“ To the Hon. S. L. MITCHILL.”

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#### *PROMOTION of the Internal Improvement of NEW-YORK.*

THE following excerpts from the book of laws for the state of New-York, passed at Albany, during the thirty-fifth session of its Legislature, will show some of the useful objects which it has been solicitous to promote.

##### **I. For the benefit of the Medical Profession.**

1. The statute of June 12, 1812, enabling the Regents of the University to establish a College of Physicians and Surgeons, in the town of Fairfield, in the county of Herkimer.

2. That of the 19th of June, endowing the said College, after it was established, with bonds and mortgages, executed to the people of the state, for lands heretofore on the late Oneida reservation, to the amount of ten thousand dollars.

3. The act of May 26, to amend the statute heretofore passed, and printed at large in our vol. x. p. 432, to incorporate Medical Societies, &c. It provides that a student obtain-



ing a diploma from the Medical Society of the State, shall pay the president, on receiving the same, ten dollars; and for the like document from a County Society, five dollars. It enables the State Society to elect a number, not exceeding two annually, of eminent and respectable physicians, in any part of the commonwealth, to be permanent members. It declares, that persons practising without a regular license, shall forfeit twenty-five dollars for each offence, for the benefit of the County Society where the conviction shall be had; unless the practiser receives no fee or reward, in which case he is exempted from the penalty. And it further directs every licentiate to file a copy of his diploma with the clerk of the county wherein he may reside; or be precluded the benefit thereof until it shall be so deposited.

4. By an act of June 19, 1812, the charter granted to the College of Physicians and Surgeons in the city of New-York, bearing date 4th June of that year, was ratified and confirmed to all intents and purposes, notwithstanding the grants and charters formerly made.

## II. Touching Natural History. (*a*) Mineralogy.

1. The act of June 1, incorporating a company for the purpose of digging and manufacturing *Lead* ore, in the county of Ulster, has opened the way for valuable disclosures in the *transition* region where their mine lies.

2. The incorporation of the Stockholders of a *Slate* Company in Dutchess county, by an act of June 8, puts in operation a capital of ten thousand dollars, to penetrate the strata of *primitive* shistus, in the town of Northeast, near the Connecticut line.

3. The *Salt* Springs in Onondago have been heretofore noticed in our work, vol. ii. p. 317. By the statute of June 15, the system devised for their administration in the villages of Salina, Liverpool, and Geddes, was corrected and improved; and such regulations adopted, as to enable a competent observer to deduce many important observations from the annual report of the superintendant. In a *secondary* district, where beds of gypsum accompany the salt, and where the *salicornia* and *atriplex* grow spontaneously on the marshes irrigated by the brine of the springs, there is much matter for reflection.

4. The *Marble* Company, incorporated June 19, for

working the quarry in the town of Mount-Pleasant, and county of Westchester, may be expected to increase our knowledge of geology, by displaying the precise formation of secondary or transition lime-stone, stratified upon primitive gneiss and granite.

(b) Zoology.

A law of June 8, 1812, declares it penal to catch trout within the streams of Hillsdale and Claverack, in Columbia county, or within the waters of Lake George, by seines, nets, spears, or in any other way than by hook and line. Such is the desire of the inhabitants to preserve these delicious fishes.

III. Relative to the Useful Arts.

1. Wool. The Comptroller of the Finances was authorized to lend five thousand dollars to the Jamesville Woollen Factory at Onondago; a like sum to the Woollen Manufactory at Trenton, in Oneida; and four thousand to the Clinton Woollen Manufacturing Society. And an act of incorporation was passed in favour of the Clason Woollen Manufacturing Society at Yonkers, in the county of Westchester. Besides which, by the act of June 19, for encouraging manufacturers of woollen cloth, premiums and bounties are liberally offered for broad-cloths and coatings, made of native New-York wool, manufactured within the state.

2. Iron. An Iron Factory at Jamesville, and another at Oneida, are mentioned in the statutes of this session.

3. Glass. The Oneida and Woodstock Glass Companies are patronized.

4. Wire. A company, with a bank annexed, was incorporated June 15, for the purpose of establishing and perfecting the manufacture of brass and iron wire, and of cards for preparing cotton and wool, within the state of New-York. The capital is a million and two hundred thousand dollars; of which, five hundred thousand must be employed in manufacturing, and seven hundred thousand may be engaged in banking. The former must be within the state, and the latter in the city of New-York.

5. Cotton. Establishments both for spinning and weaving this important domestic article, are become frequent,



and are multiplying rapidly, all over the country, by the aid of Arkwright's most improved machinery.

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*CENSUS of the UNITED STATES for the year 1810. Published by authority of the General Government. Washington. Double 4to. pp. 178.*

THE subjects of medical practice, in the United States, amount to more than seven millions of persons. This important fact is proved by the publication now before us. In framing a constitution of government for the United States, the Convention of 1787 provided that an actual enumeration of the people should be made within three years after the first meeting of Congress; and within every subsequent term of ten years, in such manner as they should by law direct. Congress commenced its first session, under this constitution, at New-York, on the 4th day of March, 1789, in the thirteenth year after the declaration of independence.

Accordingly, on the 1st day of March, 1790, an act was passed, providing for the enumeration of the inhabitants of the United States. On the 28th of February, 1800, an act was passed providing for another census. Again, in 1810, provision was made by law for numbering the people a third time.

The first of these great public enterprizes was finished before the Medical Repository had a being. The second was the subject of a very particular comment and calculation in vol. v. p. 216. And we now have an opportunity to consider the last of them.

The return before us was printed under the eye of the Secretary of State. Much pains were taken to render it correct. In some instances, for example, the abstract of a state or territory was sent back, from the department of state, to the marshal who had made it, for the purpose of inserting certain persons omitted in the first instance. In one case, a too numerous return was reduced. Errors in casting and adding up the columns of figures, were detected and rectified. Some of them overrun the truth, and others fell short of it. Other mistakes have been cor-



lected by the pen, as they were detected, after the sheets were printed off. By these several amendments, inaccuracies have been, as far as possible, excluded, and the results rendered correct. This is particularly true of the general summary, in which, it is presumed, there is no mis-calculation whatever. It is as follows:

District of Maine,	228,705
Massachusetts,	472,040
New-Hampshire,	214,460
Vermont,	217,895
Rhode-Island,	76,931
Connecticut,	261,942
New-York,	959,049
New-Jersey,	245,562
Pennsylvania,	810,091
Delaware,	72,674
Maryland,	380,546
Virginia,	974,622
Ohio,	230,760
Kentucky,	406,511
North-Carolina,	555,500
Tennessee,	261,727
South-Carolina,	415,115
Georgia,	252,433
Orleans Territory,	76,556
Mississippi Territory,	40,352
Louisiana Territory,	20,845
Indiana Territory,	24,520
Illinois Territory,	12,282
Michigan Territory,	4,762
District of Columbia,	24,023

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Total,	7,230,514
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In the marshal's return to the department of state the population of the state of New-York was taken by counties only. The towns composing the counties were wholly omitted. This did not vitiate the enumeration for any purpose of political usefulness. But its value and importance were greatly lessened for many of the views of the statistical inquirer. Under this impression, efforts were immediately made to procure the enumerations of the towns. This was successful. The different assistant mar-

shals had made their returns to the principal, and he had filed them in the office of the clerk of the district court, held in the city of New-York. Mr. ROBERT FINN, the deputy clerk, furnished for publication a copy of these town-abstracts, certified under the seal of that court, dated January 13, 1812. Even in this there were found some gaps and deficiencies. But they were ably and promptly supplied by the intelligence of STERLING GOODENOW, Esq. the author of the Statistical Manual heretofore respectfully noticed in Medical Repository, vol. xv. p. 182. The whole, as amended, makes a highly curious and interesting document, which we regret we have not room to insert.

## NEW AMERICAN PUBLICATIONS.

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 MUHLENBURG'S CATALOGUE.

"A CATALOGUE of the hitherto known Native and Naturalized Plants of North-America, arranged according to the Sexual System of Linnæus, by Henry Muhlenburg, D. D. Minister at Lancaster, in Pennsylvania," has very lately reached us. It is a highly important addition to the botany of our country. The information he gives comes from the most correct sources, and much is derived from his own examination. We observe, that the modern improvements in classification are adopted; and likewise, that there is a rich collection of the common vernacular names. The genera amount to *eight hundred and sixty-three*, with their corresponding species. We, however, must be brief at the present time, in noticing this respectable and excellent performance, inasmuch as it is our intention to give a more full and circumstantial account of it at a future day.

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 COMPENDIUM of AMERICAN BOTANY.

WE have seen part of a publication now in the press at Georgetown, (Columbia,) entitled, "A Synopsis of the Genera of American Plants, by O. Rich, Esq." It will form a neat pocket volume of about one hundred and forty pages. It promises to be very serviceable to those who prosecute that elegant science in this country. We therefore hope the author will accelerate the work as fast as he can, consistently with correctness and perspicuity.

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*Now publishing by* COLLINS & Co.

THE Medical Writings of Edward Miller, M. D. late Professor of the Practice of Physic in the University of



New-York, and Resident Physician for the City of New-York; collected, and accompanied with an Account of the Life and Character of the Author, by Samuel Miller, D. D. Pastor of the First Presbyterian Church in the City of New-York. The work will be comprised in one handsome volume, 8vo. and will contain from 450 to 520 pages. Among his original papers, as they lie scattered in the volumes of the Medical Repository, will be added several never before printed. To the volume will be prefixed the best likeness of the deceased that can be procured.

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*ELEMENTS of SURGERY, for the use of Students. By JOHN SING DORSEY, M. D. Adjunct Professor of Surgery in the University of Pennsylvania, &c. Philadelphia. 8vo. pp. 407.*

WE have just been favoured with a view of the first volume, bearing the above title, and which, no doubt, contains a great mass of surgical instruction. It is composed of seventy-two chapters, from which we have not been able to discover what will be the characteristic plan or order of the whole work. We hope to have it in our power to do homage to its merit and utility. The respectable school in which it has originated, assigns to it a great claim to our attention, and to the confidence of the public.

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#### HENRY'S CHEMISTRY.

THE two American editions of *Henry's Chemistry*, with notes and additions by *Professor Silliman*, of Yale College, being nearly all sold, *Thomas & Andrews*, of Boston, intend publishing a new edition, in two volumes, 8vo. in which the author has introduced numerous important additions and improvements. This *third American* edition will also be revised by the editor, who will make such additions as the progress of the science may have rendered necessary.

REVIEW of an ESSAY on the BILIOUS EPIDEMIC FEVER prevailing in the State of New-York; by CHRISTOPHER C. YATES. With additional Remarks by a Physician. Albany. 1812. 8vo. pp. 44.

SOME observations in the preface of this anonymous production, have induced us to reconsider whether any editorial remarks on the above essay, in our preceding volume, could have merited the censure passed by the author against *medical reviewers and journalists*. We found nothing except what could be inferred from a typographical omission, which we are willing to correct.

In page 339—"The first (edition) was inscribed to Dr. Stringer, of Albany; the present is inscribed to Dr. Coventry, of Utica; whom he eulogizes for having published a mode of practice in the disease, *which both reason and experience have pronounced to be successful*." Read thus, with commas of quotation, "which both reason and experience," &c.

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An HISTORICAL SKETCH of the Origin, Progress, and present State of the College of Physicians and Surgeons of the University of the State of New-York. New-York. 1813. 8vo. pp. 52.

THIS little pamphlet bears no name of its author, and is decorated with an engraving, that represents the front of the building now appropriated for the reception of the different classes, for a Chemical Laboratory, and an Anatomical Amphitheatre.

The union between the old and the new schools of physic in our metropolis having been accomplished, we congratulate the medical profession on the event. Little more remains for the completion of every rational wish on the subject, than the organization of the joint institution upon such a plan as to combine and concenter in the furtherance of its important objects, the great mass of zeal and talent possessed by the members of the faculty at large. For such a powerful co-operation, the lover of Hippocratic science looks to the constituted authorities with confident hope.

## MEDICAL INSTRUCTION.

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### *College of Physicians and Surgeons in New-York.*

Arrangement of professorships in the College of Physicians and Surgeons, since the union with the Faculty of Columbia College :

Clinical Practice of Medicine, at the New-York Hospital, by Dr. *Hamersley*.

Obstetrics and the diseases of women and children, with practical illustrations, at the Lying-in Hospital, by Dr. *Osborn*.

Medical Jurisprudence, by Dr. *Stringham*.

Anatomy, Physiology, and Surgery, by Drs. *Post* and *Smith*.

Chemistry and Pharmacy, by Dr. *Mac Neven*.

Materia Medica, by Dr. *Francis*.

The Principles and Practice of Surgery, by Dr. *Mott*.

Theory and Practice of Physic, by Dr. *Hosack*.

Natural History, including Botany and Mineralogy, by Dr. *Mitchill*.

Clinical Surgery, at the New-York Hospital, by Dr. *Post*.

Natural and Experimental Philosophy, by Dr. *De Witt*.

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### *Medical Institution of Queen's College, (N. Y.)*

We have been informed, by a circular, signed by Archibald Bruce, M. D. that as this institution continues to be under the auspices of the President and Trustees of Queen's College, the establishment has invited the approbation of the public, and obtained the patronage of the Medical Societies throughout the state. This encouragement has induced the members of the institution to continue their labours, and pursue the object of medical edu-



cation. Arrangements have accordingly been made for the winter, and the third session commenced on the first Monday in November, at the buildings in Duane-street.

The president of each incorporated Medical Society is authorized to designate one student of medicine, of good moral character, of diligent habits, and promising talents, who shall be permitted to attend. Proficient students, &c. to be invested with the usual academic honours, under the approbation of the Institution, and the authority of the President and Trustees of Queen's College.

Institutes of Medicine, Practice of Physic, and Forensic Medicine, taught by *Nicholas Romaine*, M. D. and *John Watts*, M. D.

Materia Medica and Mineralogy, by *Archibald Bruce*, M. D.

Anatomy, Physiology, Surgery, and Midwifery, by *Valentine Seaman*, M. D. and *Thomas Cock*, M. D.

Chemistry and Natural Philosophy, by Mr. *John Griscom*.

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*University of Maryland.*

A Report to the Faculty of Physic of the University of that state has been published, containing the arrangements of the different branches appertaining to a new Medical School in Baltimore.

The report says, "that the apartments provided for the classes are more spacious and convenient than any other in America, and deemed inferior to none in Europe."

A chemical apparatus, a mineralogical collection, drawing preparations, models, and surgical instruments, &c. have been also liberally procured.

The various branches of medical science are taught as follows:

Institutes or Principles of Physic, by *John B. Davidge*, M. D.

Anatomy, by *James Cocke*, M. D.

Principles and Practice of Surgery, by *William Gibson*, M. D.

Chemistry, by *Elisha De Butts*.

*Materia Medica*, by *Samuel Baker*, M. D.

*Midwifery*, by *Richard W. Hall*, M. D.

*Practice of Physic*, by *Nathaniel Potter*, M. D.

The lectures will commence on the last Monday in October, and terminate on the first of March.

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*Harvard University in Massachusetts.*

THE winter course of Lectures, in the Medical Institution of Harvard University, has commenced in Boston, on the first Wednesday in November, and continues daily for three months. These lectures are so arranged as to comprize a complete course of medical instruction, except in botany and midwifery, on which subjects there are separate lectures given in Boston. There is an extensive collection of anatomical preparations, a valuable library, given by Ward N. Boylston, Esq. and a clinical school, where may be seen cases of actual disease and of practice, both in medicine and surgery. Besides these, there are various other means of improvement, which, with those mentioned above, will afford the industrious student an opportunity of employing his whole time in the acquisition of important professional knowledge.

Anatomy and Surgery, by Dr. *Warren*, and Dr. *Warren*, jun. \$20.

Theory and Practice of Physic, and Clinical Medicine, by Dr. *Jackson*. \$15.

Chemistry and *Materia Medica*, by Dr. *Dexter* and Dr. *Gorham*. \$15.

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